THE AUTOMOBILE

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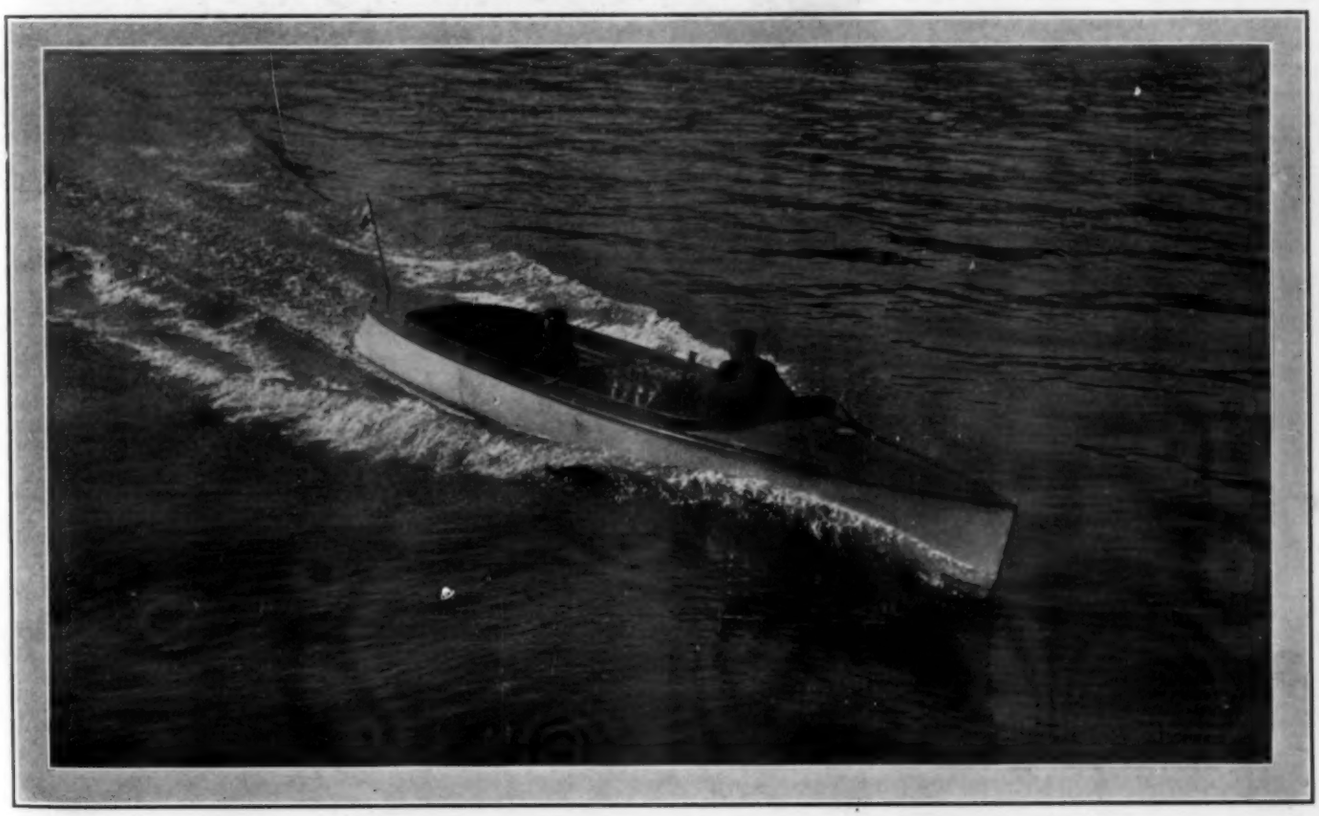
# Motor Vehicles of the Waterways.

## A Morning on Harlem River with Fast Boats.—Points in the Construction of Light Modern Craft of High Power.—Peculiar Effects and Sensations.

WITHIN the past week or two the infrequent strollers whom the blasts of approaching winter have not availed to drive from New York's famous Speedway have beheld on the Harlem River an exhibition of speed which should go far to compensate for the diminished attendance in the way of horseflesh on the Speedway itself. Two gasoline launches—one long and slim, with a motor whose four upturned exhaust connections discharge a Maxim-like roar of sound that reminds the beholder of nothing so much as Barney Oldfield's now historic "999," the other a little shorter, a little heavier, with an engine whose greater power is half-concealed by a regulation stern exhaust, half-revealed by the two sheets of spray at the bow and the heavy wash astern—these two craft have gone flying up and down the Harlem—now nearly deserted by the rowing fraternity,—beating the fastest tugs to a standstill, beating even the supposedly fast launches whose owners, unaware of what was in wait for them, unexpectedly stumbled on these new champions; and, since there was nothing else fast enough to give them a real race, racing with each other, and performing complicated evolutions at speeds which made it the part of prudence for the few passengers to lean a bit to what in a



THE 55-HP. MOTOR BOAT "GEE-WHIZ" CLEAVING THE WATERS OF THE HARLEM.

EXCITING BRUSH OF SISTER BOATS AT 20-MILE SPEED.

sailboat would have been windward.

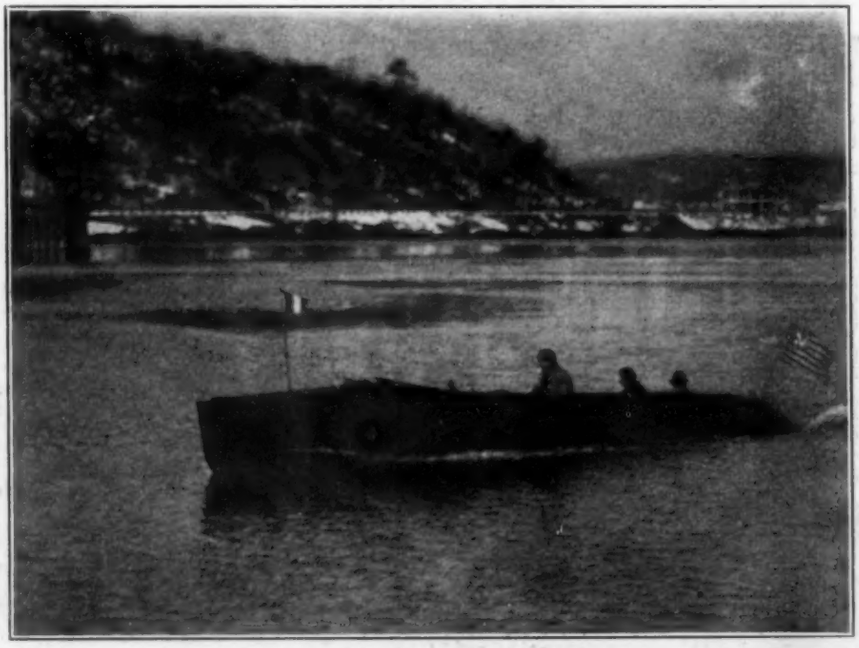
These two boats were built in works located on the Harlem River, and mark the decision of their builders, long known as builders of naphtha launches, to enter the gasoline launch field with boats in which the recent progress by automobile builders will be utilized for the attainment of the highest power per unit of weight. The motors in these particular boats, it is true, have but a limited resemblance to those used in automobiles, but both are very light, as marine motors go, for their power; and a visit to the company's shops made it plain to a representative of THE AUTOMOBILE that their regular line of gasoline boats, none of which has yet been launched, will have motors differing from the automobile type in hardly any respect but that of having cast-iron crankcases.

The longer boat, which was launched a little earlier of the two, is 35 feet long by 4 feet 10 inches beam. Her draught is about 7 or 8 inches, and she has a nearly vertical stem and a stern of the torpedo-boat style, slightly modified to facilitate its construction in wood. The motor has four separate cylinders 6 by 6 inches, with automatic inlet valves. Both inlet and exhaust valves open directly into the tops to the cylinder heads, so that there are no valve chambers. The connecting rods are rather long, so that the engine is higher than it might have been, and this impression of size is further assisted by the short upturned exhaust pipes, temporarily fitted for the purpose of studying the action of the cylinders separately. Jump spark ignition is used, with current from an Apple generator.

The ultimate speed of this boat is still uncertain, as she has so far been fitted only with stock screws made for naphtha engines of much lower speed and power. On the day when she was examined by the representatives of THE AUTOMOBILE she covered the measured Speedway mile, where that race course runs close to the water's edge, in 2 minutes 33 seconds, going with a tide just past the full and running apparently not over two miles per hour. A mile in 2:33 is 23 1-2 miles per hour, from which it may be inferred that the speed proved thus far is not slower than 21 miles per hour, probably half a mile or more better. According to the makers, the engine speed reaches 900 or more revolutions at full speed, from which a rough calculation would indicate the probable power to be thirty-five to forty horsepower

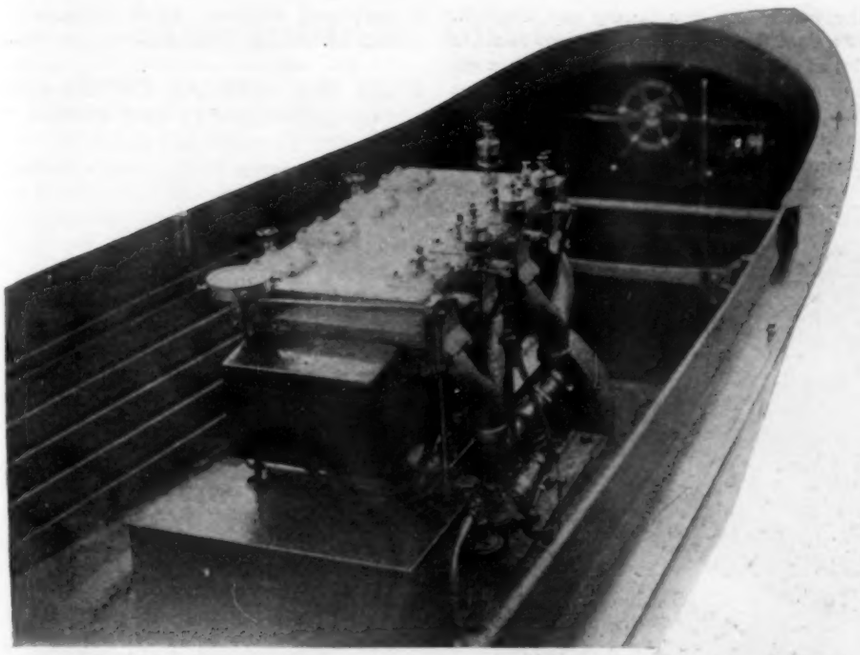
The engine just described was designed by Charles L. Seabury, proprietor of the marine works known by his name, and with which the Gas Engine and Power Company is consolidated. The boat in which it is placed, though of wider beam than it would have been if designed for racing pure and simple, is really to be classed as a speed boat. The other launch, to which the appellation of "Gee-Whiz" has been attached, is really a service boat with an engine powerful enough to be "let out" for racing. Her hull is of practically identical form with the other, except that it is shortened five feet. The beam and depth are the same, but on account of the greater weight of the engine, whose cylinders measure 7 1-2 by 7 1-2 inches, her actual displacement is probably a little greater.

The tests of the "Gee-Whiz" thus far have developed a speed of rather less than twenty miles, which evidently is nowhere near what she is capable of doing, considering her engine power. The reason, doubtless, is to be found in the screw, which will shortly be changed, and possibly also to the fact that when empty of passengers she floats a little "down by the head." This fact, coupled with the shorter length, causes her to throw up sheets of spray and bow waves much more marked than those of the longer and lighter but (at present) faster boat. Indeed, to any passenger of the "Gee-Whiz" not ensconced well back in the stern, the chief impression, when the throttle is wide open and the spark well advanced, is not by any means one of speed, but of violent vibration and a shower of fine salt spray which makes it impossible to keep one's eyes open more than five seconds at a time. But that is only when the last three or four miles of speed are tucked on. At cruising speeds one feels little or no vibration, and



THE "VINGT-ET-UN" COMING UP FOR A TRIAL.

"GEE-WHIZ" AS A PLEASURE CRAFT.



ENGINE AND CONTROL APPARATUS IN 55-HP. BOAT.

has ample opportunity to note the flying scenery.

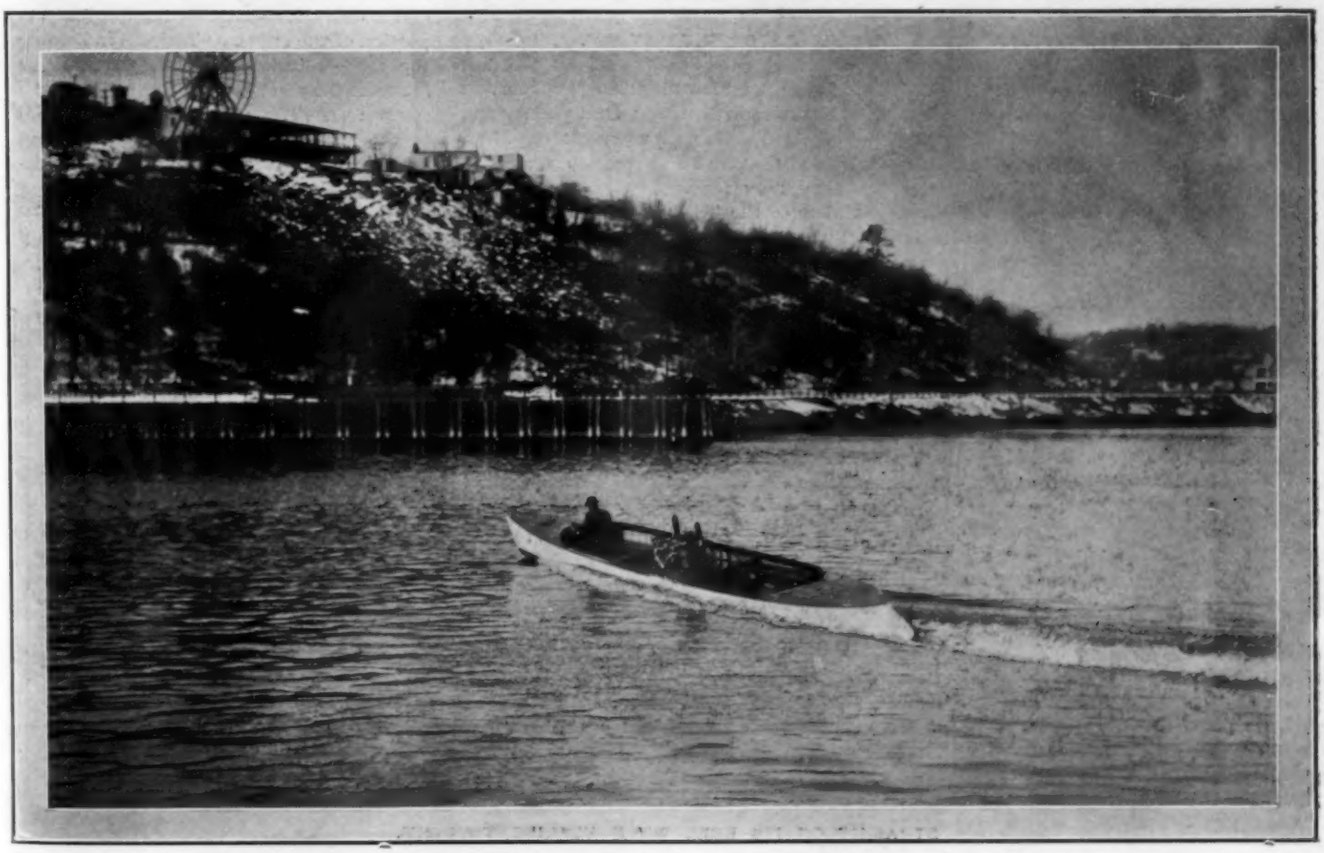
The "Gee-Whiz" is beautifully finished in mahogany, with after cockpit for the passengers, and a forward space where the steersman sits and controls all the motions of the boat by wheel and levers directly at hand. The engine has a brass water jacket, composed of flat plates tinned (to reduce galvanic action) on their inner surfaces and screwed to gaskets. The inlet valves are automatic, and on the opposite side of the cylinders from the exhaust valves.

All the four-cylinders are cast together, which is made possible by the water jacket construction. The engine is very compact, and its weight of 1,200 to 1,300 pounds is light for its power, which is probably not less than fifty-five horsepower. A centrifugal circulating pump forces the water, after it has passed through the jacket, into the two branched pipes leading from the exhaust ports. There are cocks to regulate the flow of this water, and in one of the photographs shown herewith the flow has been reduced so much that it all goes into steam in the exhaust pipes, producing the cloud of vapor seen.

The "Gee-Whiz" has jump spark ignition, and the commutator is mounted on the upper end of a vertical shaft at the rear end of the engine. It has an ingenious device by which a second late contact may be made, for the purpose of producing ignition, after the engine has been stopped for a short time, by simply "throwing the spark over"—*i. e.*, shifting it till, whatever the position of the pistons, a spark occurs in some one of the cylinders. The spark current in this boat is derived from a battery.

The engine of the "Gee-Whiz" was designed by W. S. Howard, already known as the designer of some very neat and serviceable small launch-motors, and latterly as a successful automobile designer as well.

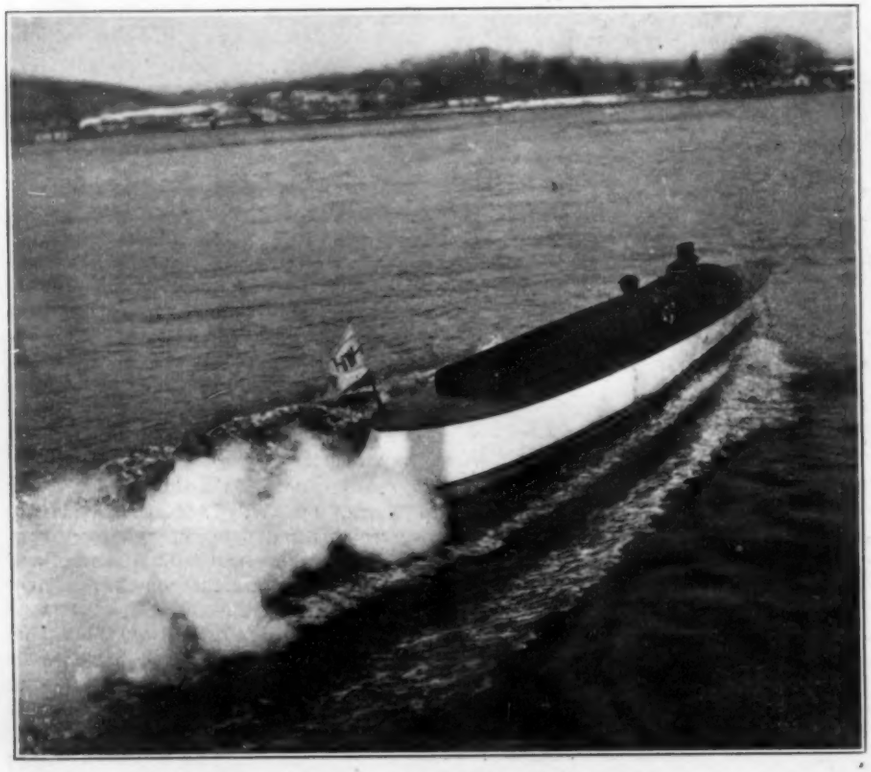
An interesting feature of the racing launch is her very marked list to port when traveling at speed. This is due to the reaction of the engine, and with it the



UNNAMED 35-HP. BOAT CUTTING A CURVE TO STARBOARD AT HIGH SPEED.

hull, to the turning force applied to the screw. When the boat is turning to starboard this list is augmented by centrifugal force, as is plainly shown in one of the photographs. Owing probably to her greater displacement and to the fact that the screw thus far used is insufficient to absorb the full power of the engine, this list is much less marked with the "Gee-Whiz."

Although, as has been implied, the engine of the "Gee-Whiz" is rather too powerful to suit the hull, the joy of riding in the other boat is wholly unalloyed. It is a novel sensation, that of rushing over the water (one can hardly say through, of a boat which skims the surface as these do) at a speed equal to that of the average automobile. And really one does not need an extravagant amount of power to do it. Now that the hull design is beginning to be understood, one may look for fifteen or sixteen miles per hour, in slack water, with fifteen horsepower, and for eighteen miles with twenty horsepower, provided that hull and engine are as light as they may reasonably be made. The builders of the "Gee-Whiz" are preparing to put out four-cylinder engines, 4 1-2 by 5 inches, in appropriate hulls, with which a speed of eighteen miles "stripped" should be within reasonable expectation.



HEAT OF EXHAUST TURNS COOLING WATER INTO STEAM.

## RULES FOR AMERICAN ENTRIES FOR GORDON-BENNETT CUP RACE.

American entries for next year's Gordon Bennett cup race must be in the hands of the racing committee of the Automobile Club of America on or before next Tuesday, December 15.

The conditions governing American competitors, as announced on December 4 by O. W. Bright, Chairman of the racing committee of the A. C. A., are as follows:

First. Each entrant shall deposit with the A. C. A. the sum of six hundred dollars.

Second. The racing committee shall decide which of the entrants may compete in the cup race. This decision may be arrived at by a contest, or by the committee without a contest.

Third. Any entrant who is nominated by the racing committee for the cup race shall have his entry fee returned to him.

Fourth. Any entrant who, after being nominated for the cup race by the committee, does not start, shall forfeit his entry fee of six hundred dollars.

Fifth. If three entrants are nominated to take part in the cup race, each entrant shall have two-thirds of his entry fee—after deducting his proportion of the expenses incurred in holding the race—returned to him, provided he starts in the race.

Sixth If two entrants are nominated, each of such entrants shall have one-half of his entry fee—after deducting his proportion of the expenses incurred in holding the race—returned to him, provided he starts in the race.

Seventh. These rules are supplemental to the rules of the Gordon-Bennett Cup Race, by which each entrant agrees to abide.

The first automobile rural mail delivery route in Missouri has been established by William Craig of Bethany.

STRAIGHT ON ITS KEEL WHEN VEERING TO PORT.

# Automobile Industry and Trade in Detroit.

## Glimpses of Productive Work in the City Where Mass Manufacture of Gasoline Motor Vehicles Was First Systematized—Views from Packard, Cadillac, Olds, Northern and Ford Factories—Interesting Details in Design and Work Methods.

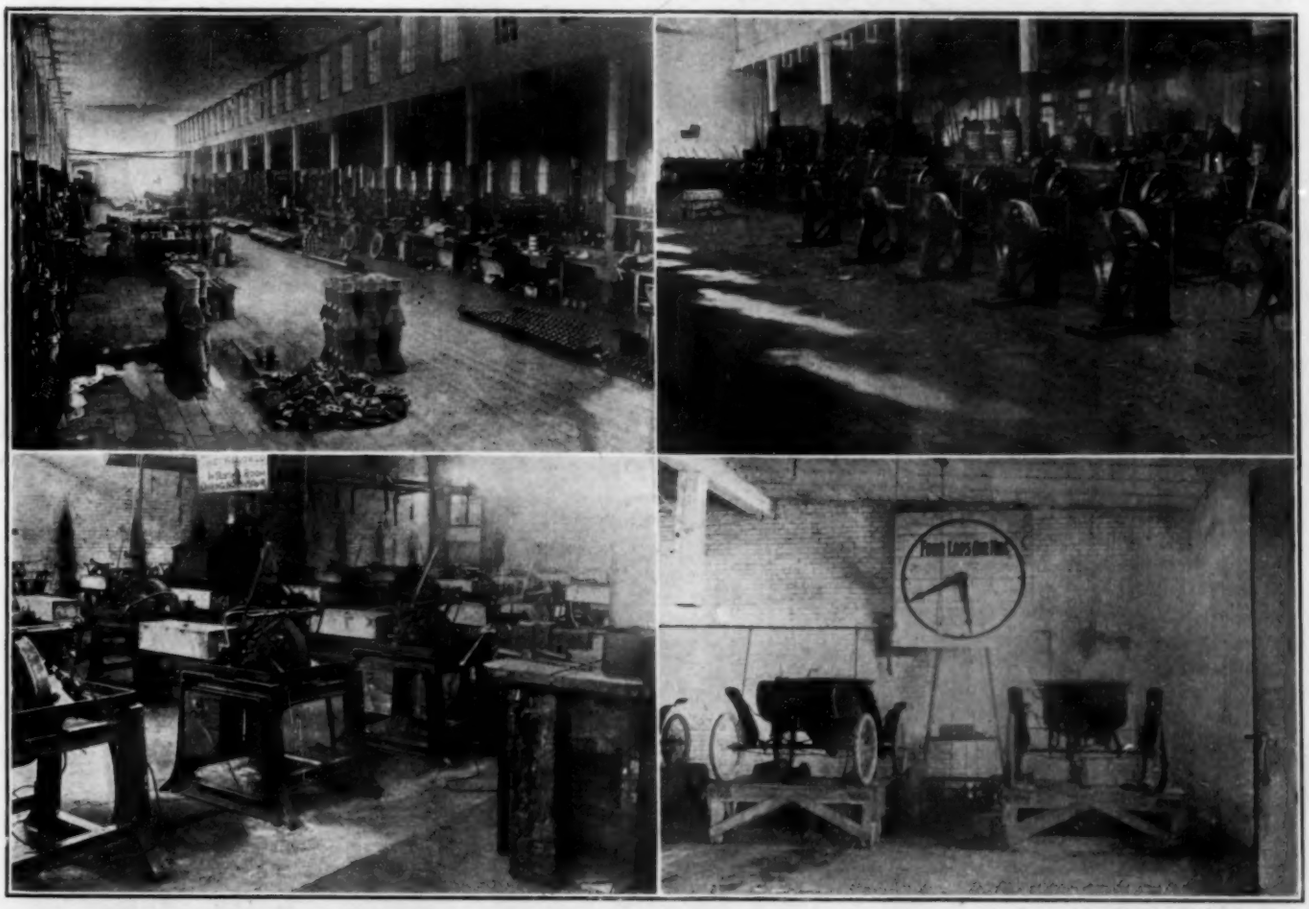
In the days when automobile manufacturing in this country was young, the best-known cars came from points so widely separated that it would have been difficult to locate the center of the trade. To-day two Lake cities build more automobiles than all the rest of the country put together, and of these two cities Detroit's output is easily first.

The history of this remarkable industrial development in Detroit reads like a page of romance, but in the City of Straits nearly everything is done in a large way, and there is a sense of hustle and activity there that at once impresses the visitor, who soon falls into line with the rest of the folk and sets his watch a half-hour ahead of standard time to keep ahead of the outside world.

Although the manufacture of automobiles in Detroit was in its infancy five years ago, her runabouts are found in every civilized country on the globe to-day, carrying with them ample proof of American enterprise and originality, for there is nothing about these cars to suggest foreign ideas or adaptation.

Detroit builds automobiles so rapidly that special methods have been found necessary to turn out not ten cars a day, but a hundred or more, during the busy season, and these methods form the basis for an interesting study. It may be true that the manufacture of machinery seems prosaic to the average mind, but there is something about the construction of automobiles that seldom fails to awake the keen interest of a visitor, who finds a pleasing blend of stern reality and poetic fancy in a tour through an auto factory. Every operation seems to tend toward the great outdoors and the open road, and when the various parts of a car, at first scattered about the shop, are finally assembled and the motor is given its first vital spark that sends the completed vehicle into the world thrilling with life, the mind must be sluggish indeed that is not fired with inspiration and interest.

Detroit's automobiles were all of the runabout or light touring car type, such as the Oldsmobile, Cadillac, Ford and the Northern, until the Packard company came to the city. Now a heavy, single-cylinder touring car is added to the list, and a high-powered four-cylinder car for next season.



Parts Ready for Assembling. Motors Under Test. Motors Ready for Testing. The Indoor "Race Track."

SUCCESSIVE STEPS IN OLDSMOBILE MANUFACTURE.

The story of the Oldsmobile is one filled with dramatic incidents that seem to be apart from the matter-of-fact industrial world. It is a tale of rapidly moving events and unforseen eventualities, of how a business confined to a little story-and-a-half pitch-roofed building in Lansing, Michigan, in the early 80's has developed into two distinct companies with three great manufacturing plants, two in Lansing and one in Detroit, backed by a total capital of $2,175,000.

Notwithstanding this rapid growth, the hopes of the company were blighted by a devastating fire only two years ago when the Detroit plant was wiped out, but a business even more extensive than before quickly grew from the ruins.

Mr. Olds began his automobile experiments in 1887 and has been devoting the major part of his time to this interesting study ever since. One of his earliest cars is illustrated herewith; this vehicle is a highly-prized relic now kept at the Lansing plant. Oldsmobiles as at present constructed are familiar to more people than any other type of automobile ever devised, so that a description of their leading features would be superfluous at this time. The manufacturing methods employed at the Lansing and Detroit plants are of interest, showing, as they do, how the company is able to turn out such a surprising number of Oldsmobiles each season, the output running up into the thousands.

HALF-MILE TRACK AT OLDS LANSING WORKS.—TESTING INCLINE.

After the Detroit fire the city of Lansing gave the Olds Motor Works fifty-six acres of land, with a substantial cash bonus, to induce the company to locate in that city. Not long ago the company returned the bonus to the Lansing board of trade, although such stipulation was not made at the time the money was advanced, so that the sum was virtually a gift to the city.

The three Olds plants cover a floor space area of 340,000 square feet. The River Plant at Lansing is known as the Olds Gasoline Engine Works; the other Lansing plant, and that at Detroit, both belong to the Olds Motor Works, makers of Oldsmobiles, "The World's Standard Runabout."

The two plants of the Olds Motor Works have much in common. They are practically of equal size and there is little difference in the mechanical equipment of the two. As Mr. Morley aptly remarked, "We consider it good insurance to maintain two establishments. If one should be destroyed by fire we could take care of our most pressing orders at the other, until the first plant could be put into shape again." The Lansing plant is built on the old fair ground, now the property of the Olds company, and a half-mile track is one of the features. This track is used to test the speed qualities of new runabouts. An inclined plane set at an angle of 25 per cent. on one side and 28 per cent. on the other is used to test the hill-climbing ability of each new vehicle. At the present time an inclosed track is being erected for winter use. The accompanying illustration shows the hill-climbing structure, and gives some adequate idea of the extent of the grounds of the Olds plant at Lansing.

Everything is done on such a large scale at the Olds factories and the little runabouts are mechanically so simple, that it is difficult to select any single operation as fundamental for the production of the completed car. In different parts of the works the different parts are made simultaneously, so that a hurried visit at first leaves an impression of many almost disconnected details. Yet, at the end a clear, sharp picture—a complete Oldsmobile—is suddenly presented to the vision, and the organic relations between the various component parts then quickly flash upon the visitor's mind, and all the details gain a more ample meaning.

The cylinders and crank case halves are cast integral. Two of these castings, at one time, are mounted on a steel framework or jig and leveled and centered by means of a simple mechanism consisting of a bed plate and four lathe tail stocks, after which the jig, carrying the cylinder castings, is lifted to a combined boring and milling machine by means of a chain tackle. When securely fixed in place the two cylinders are bored and the crank case ends milled off simultaneously.

After the cylinders are machined, the jackets are tested for leakage under hydrostatic pressure. Although faulty castings are rarely found, it is considered prudent to test each cylinder separately, and castings found defective are broken up and remelted. No effort is made to repair them, however slight the defect may be.

After a cylinder casting passes this test, it is leveled vertically and the crank bearings are babbitted around a standard mandrel. The casting is then drilled and tapped for all fittings, jigs being used in every instance to assure uniformity. The accumulated oil and other foreign matter is then removed by a cleaning bath of

THE ORIGINAL OLDSMOBILE OF 1897.

soda and hot water, after which the casting is taken to the piston-grinding machine, where a piston is ground and fitted.

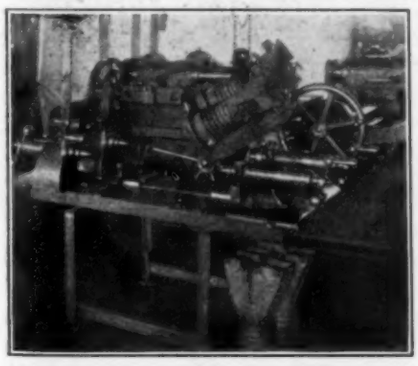
The first stage of assembling comes next; piston rings are fitted to pistons, crank-

TWO PISTONS IN ONE OPERATION.

shaft bearings are scraped, pistons with connecting rods are put into place and the second crank case halves are attached by bolts. The cylinder, piston, crank and crankcase then form a unit, ready for mounting in the motor frame, which is made of angle iron and carries an A-frame superstructure for the starting crank, transmission shaft and other parts.

The angle iron frame is mounted on an erecting bench in a certain exact position determined by hardened studs, previous to attaching the cylinder unit, the crankshaft lying in suitable supports to determine the relation between the frame and motor. The cylinder is then carefully leveled, after which molten babbit is poured into a pocket in the transverse motor-supporting member under the free end of the cylinder, thus forming a solid foundation for the engine, which is afterward bolted down solid. The accompanying illustration of the babbitting bench shows how the motor is held during the operation just described.

The motor and its supporting frame are handled as a unit after the babbitting process, and transferred to the assembling bench where the controller shaft, trans-

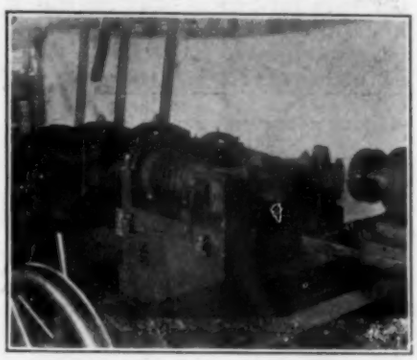


LIFTING CYLINDER CASTINGS TO BORING MACHINE—CENTERING TOOL IN FOREGROUND.

mission shaft and other parts are attached. The motors are passed, step by step, down the assembling bench toward the testing department, which is in the next room, a new piece being added at every move with clock-like regularity. A line of motors and frames is shown in the accompanying photograph, which conveys a good impression of their progressive march toward the testing-room.

In passing, it is interesting to record the fact that the pistons for the Olds motors are made in one series of operations on a powerful automatic screw cutting machine especially made for this work. The pistons are cast with heavy bosses to hold them in a lathe chuck, and the various operations of finishing the rough metal proceed automatically until the pistons are finished, with the exception of grinding, which is very carefully done by especially skilled workmen in a separate department.

The piston-making machine automatically centers the rough casting as it is held in the chuck and then takes off a heavy, rough cut, turns the piston ring grooves, faces off the inside and open end, and then cuts the finished piston free from



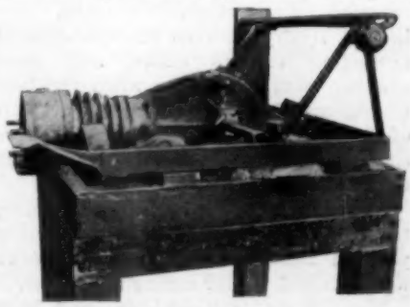
CYLINDERS IN PLACE FOR BORING.

its supporting boss, after which it is ready for the grinder.

The motor-testing room contains thirty-eight testing frames on which thirty-eight motors are mounted and tested simultaneously, with their individual gasoline tanks, mixing valves and other components, including the transmission mechanism, in place. This room presents a most active scene, and the frantic little motors make a noise like a boiler factory on a busy day, as they all exhaust into the open, at the total rate of 4,700 exhausts a minute. The escaping gases are carried off quickly by a most complete ventilating apparatus, so that the atmosphere is not vitiated. The motors are adjusted carefully and subjected to brake and speed tests in this department before they are taken to the vehicle assembling department.

The tests require about six hours during which time the motors and transmissions are in almost constant operation. In this way the bearings are worn down to a running fit before the final adjustments are made. Each engine is numbered when it is brought into the testing-room, and a record card, carrying the same number, follows it through to the final vehicle tests. After the car is OK'd, the record cards are filed for future reference.

The work of building and assembling the vehicle frames continues while the motors are being made and tested, and the final operation to produce a complete



BABBITTING MOTOR TO FRAME.

Oldsmobile takes place in the vehicle assembling department, a very large room.

Short cuts and rapid shop methods are employed in making the frames and other parts no less than in manufacturing the motors. For example, twenty-four driving sprockets, made from blanks hand-forged in the Olds blacksmith shop, are cut at a time in a special milling machine, four and one-half hours only being required to complete that number, or very little more time than would be required to make a single sprocket.

After the complete chassis is assembled, a set of testing wheels and a testing body is attached and the vehicle is ready for its final trials on the half-mile track and hill-climbing structure. Twenty young men are engaged in this work at the Lansing plant alone. They are bright young fellows who have been trained at the factory and thoroughly understand the constructive and operative features of the Oldsmobile.

In inclement weather the vehicles are tested indoors, four special machines, two of which are illustrated herewith, being used at the Lansing plant. The apparatus comprises substantial stands on which

BORING TOOL ENTERING CYLINDER.

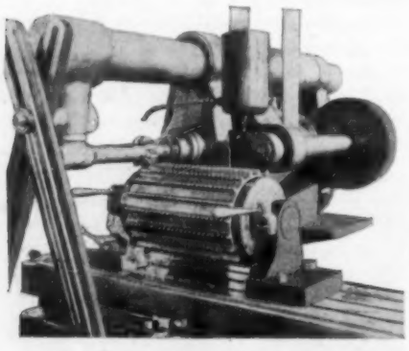
the vehicles are supported, the rear wheels resting on grooved rollers which are connected to recording hands on a dial, mounted on the wall and marked to record the speed at which the vehicles are

running. The hands are geared to rotate once for each quarter of a mile that the vehicles would cover if on the road, or four laps to the mile. One dial serves two testing machines, and the vehicles are tested in pairs, the speed of each being recorded by one of the two hands. The keenest rivalry between the operators of competing vehicles exists, and some exciting races take place when the four testing machines are in operation. Two of these Olds testing machines were exhibited at the Detroit automobile show two years ago.

As previously stated, an indoor testing track is now being erected in the factory yard at Lansing, and here the vehicles will be tested further during the winter.

Three body factories are kept busy supplying the demands of the two Olds factories; the upholstering and finishing is done on the premises.

The Olds Motor Works is growing and enlarging constantly, and the little runabouts are penetrating farther and farther into countries where automobiles are strange sights. Agencies have been established in practically every country on the globe, and the Detroit factory is kept busy supplying the demands from abroad. The foreign business is developing so rapidly that it has been found necessary to enlarge the Detroit plant, and a neighboring building of large size has been leased from the local street car company, which is now being fitted up as a part of the Olds plant. Plans have been completed for an entire new office arrangement, and the work will be prosecuted as rapidly as possible. The head of each department will have a large and well-arranged private office, luxuriously furnished and supplied with every modern



MILLING 24 OLDS SPROCKETS AT ONE TIME.

requisite necessary to the handling of the rapidly increasing business.

The Olds company is adding new cars to its line, and branching out into the commercial field. One room in the works is filled with neat little hansom cabs that were ordered for use at Daytona, Florida, and a railway inspector's car is another recent production. Hundreds of the attractive Olds delivery wagons are now being built, and they promise to be familiar sights on the streets in the near future.

## The New Packard Works.

The year 1903 is a memorable one in the history of the Packard company. The old factory at Warren, Ohio, has been outgrown and abandoned and a new plant, perfect in every detail, has been built in Detroit in a surprisingly short space of time, and the company has started on a new era, backed by some of Detroit's most influential capitalists. Prominent among the stockholders of the new Packard company are Joseph Boyer of the Chicago Pneumatic Tool Company;

BORING ALUMINUM WATER JACKET, Model K, Packard.

T. H. Newberry, a leading business man of the City Beautiful; P. H. McMillan, head of one of Detroit's leading law firms; Captain Fred. and Russell A. Alger, Jr., sons of Senator Alger, late Secretary of War; D. M. Ferry, one of America's leading seed merchants; H. B. Joy, a capitalist of the city, and J. W. Packard of Warren, Ohio, the founder of the company bearing his name.

The new plant is in an ideal location for an automobile factory, Detroit's fine fourteen-mile boulevard passing the door, and two spur tracks of the Michigan Central railroad enter the yard.

The buildings are laid out in the form of a hollow square, 400 feet on each side; 2,000 linear feet of floor space being under cover. The plot of ground on which the buildings stand is nearly square, 528 by 550 feet.

Notwithstanding the unusual size of this establishment the buildings were erected in a very short time, only ninety days elapsing from the date on which the contract was signed until the finished structures were turned over to the owners on September 22 of this year. The general appearance of the plant is shown in the accompanying illustration.

From Building No. 1, which is the farther one shown in the photograph, the north and south wings extend toward the Michigan Central tracks. The general offices of the Packard company are in the two-story building surmounted by a flag pole, seen in the middle foreground. The sales-offices and book-keeping departments are on the second floor, together with the private offices of general Manager H. B. Joy and Sales Manager S. D. Waldon. On the ground floor is the office of Superintendent C. J. Moore, formerly of Westfield, Mass., and his assistants. Here, also, is the telephone exchange and other adjuncts.

The only entrance to the plant is between the office-building and building No. 4, which is in the immediate foreground in the photograph. On turning to the right, after leaving the office, the visitor first enters the rough stockroom and passes from one department to another, gradually leading up to the finishing and shipping-rooms. Other departments in the line of progression are the blacksmith, lathe, milling and drilling, finished stock, motor, erecting, testing, gear painting, body painting, trimming and finishing rooms.

The north half of the east wing includes the motor testing and assembling departments. As soon as assembled the motors are power driven until every bearing is worn to a perfect surface, after which they are mounted on suitable structures and driven under their own power for a varying length of time, depending on the adjustments required. Usually six or eight hours running is sufficient to make all the necessary adjustments and tests, after which the motors pass to the erecting shop, where they are mounted in their respective frames, already carrying thoroughly tested transmission mechanisms, and operated again for several hours, while the power delivered to the wheels is recorded and brought to a definite standard by further adjustments if found necessary. The complete chassis is then provided with a testing body and the car is finally tried out on the road. The final stage of assembling the running

SOLDERING COPPER WATER JACKET. Model F, Packard.

gear presents a busy scene, as shown in the accompanying illustration. This work is done on the first floor of the north wing.

The south half of the east wing, on the ground floor, is used for general machine work, and here the automatic screw machines, boring machines, special drill presses and other tools are found. The tool room is situated at the north end of this department and separated from it by fireproof walls, so as to protect the

valuable jigs and other special tools employed in the manufacture of automobiles.

The designing and experimental departments, on the upper floor of the north wing, are practically closed to inspection. The tool-making room also is on this floor and connected to the storeroom below by an iron stairway. The pattern shop is adjacent to the tool-making room, and the body and sheet metal departments are on this floor. A powerful elevator for handling the material is conveniently located.

In the extreme west end of the north wing is the gear painting department. Continuing around the square, building No. 4 is reached. The plating and polishing departments are located in the north end of this structure, beyond which is the blacksmith shop and the power plant.

The blacksmith shop is provided with modern devices and tools for the most difficult forge work. The equipment includes a number of Brown and Sharpe case-hardening ovens. The annealing and hardening material used in Packard cars is of a specially ordered stock. The gears and levers are surface hardened only to resist wear; other parts that are subject to severe strains are hardened to great depth. All of the case-hardening is done by the retreating process.

The power plant is virtually a separate building. The equipment includes two 250-horsepower tandem compound engines direct connected to generators of 150 kilowatt capacity each. Two batteries of boilers are provided, each fitted with automatic stokers of latest type. Every department throughout the works has its individual motor, so that any one department could be shut down without disturbing the others, at the same time dispensing with a large amount of shafting. The generators supply the current for lighting the plant and office building.

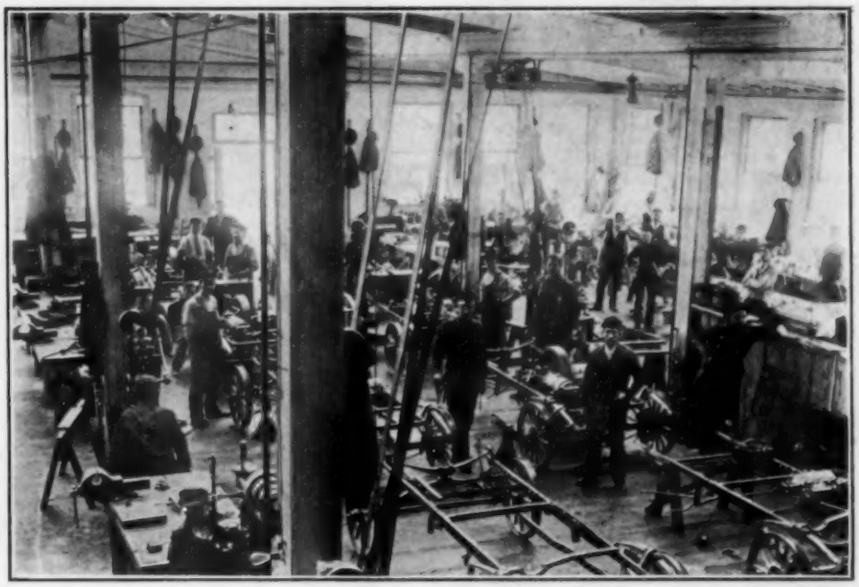
The heating and ventilating system is very complete, assuring a change of air throughout the works every thirty minutes. With the exception of building No. 2, which is heated by direct radiation, the other structures are heated by warm air, blown through large diameter feed pipes by fans located in the corner towers. The sanitary arrangements are most complete. Next to the office building is a washroom for 300 men, each man having his own wash sink and clothes locker, and a second washroom of equal capacity adjoins the erecting room in the north wing.

GENERAL VIEW OF NEW PACKARD FACTORY, DETROIT.

Buildings No. 2 and 3 are within the hollow square formed by the other buildings. No. 2 contains the painting, varnishing and trimming departments; it is connected to building No. 3, which is the finishing department, by a covered passageway. The unique arrangement of the buildings permits the men to enter their various departments without passing through any other, thus greatly facilitating their disposition when going to work or leaving.

Two spur tracks of the Michigan Central Belt Line enter the works, one on each side of building No. 4. The outside track is used solely to deliver coal and remove ashes from the power house; the other spur track which enters the grounds brings manufacturing material to the works, and over it completed cars are shipped from under an extended roof which protects the cars when shipping in inclement weather.

The head and front of the interesting Packard establishment is J. W. Packard of Warren, Ohio, collector, antiquarian, dog fancier, electrician and automobile inventor. Mr. Packard bought his first vehicle in 1898, and with characteristic directness of purpose decided to drive it from the factory to his home, a considerable distance. On the way improvements suggested themselves to him, and he soon set about designing a car of his own. He took the automobile fever in 1898, and is to-day president and head of the mechanical department of the great establishment just completed in Detroit. As a collector, Mr. Packard's taste always ran to things mechanical. At one time rare and peculiar watches and clocks were his special hobby, and after that he turned his attention to collecting guns and revolvers. Some of these are odd and of curious con-



IN THE PACKARD ASSEMBLING ROOM.

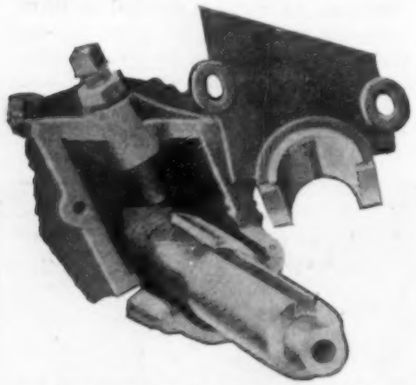
struction, but many of the rifles and revolvers are of latest Russian, German, Belgian and French make. Mr. Packard is also an expert photographer and takes pride in his cameras and photographs.

The new "Model L" Packard car, to which the company will pin its faith during the season of 1904, has been very carefully worked out by Charles Schmidt, designer for the company, and a number of these interesting vehicles will be exhibited at the coming automobile shows. In each instance the chassis will be the same, but the bodies and fittings will offer a considerable variety for selection. The car is of four-cylinder vertical type, very easily controlled and practically noiseless.

## Facts About the Cadillac.

The Cadillac Automobile Company has built up an extensive industry in little more than a year, and how it has been able to accomplish so much in such a short time is one of Detroit's subjects for never-ending wonderment.

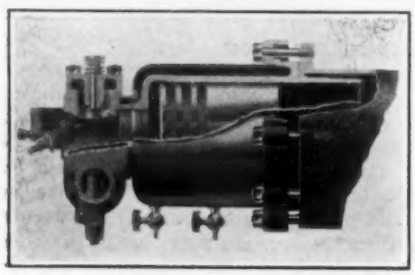
A partial explanation lies in the fact that the Cadillac company does not build its own cars complete, but has the motors, transmission mechanism and other parts



MAIN CRANK BEARING, CADILLAC MOTOR.

built on contract with guaranteed dates of delivery. In this way the entire time of the 200 men employed at the Cass Avenue factory is devoted to assembling Cadillac cars, while those at the head of affairs take good care that there is always plenty of material on hand to keep the establishment busy.

The motors, transmissions, steering gears, circulating pumps, mufflers, carbureters and other parts are made by the Leland Faulconer Company, also of



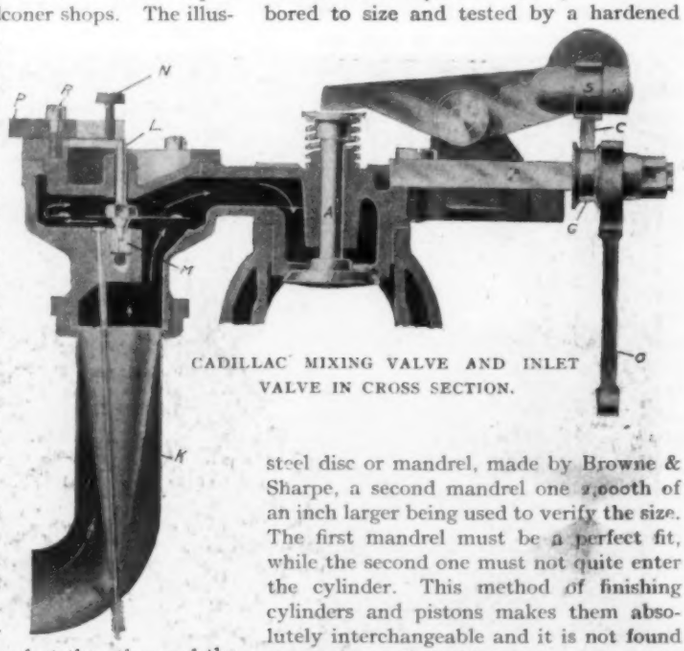
CADILLAC MOTOR, PART SECTION.

Detroit, past masters in the art of rapid and accurate machine work, and a concern well known for its special grinding machinery and other tools. It is not surprising, therefore, to find in the Cadillac motor and transmission a number of very interesting features which were developed in the Leland-Faulconer shops. The illustrations herewith serve to show these features clearly.

The crankcase is of cast iron, having removable covers to expose the crank and connecting rod bearings. The cylinder is merely a cast iron tube, of even thickness throughout, with little or no cored work, the water jacket being a removable pressed-copper shell. This jacket is turned in at the outer end and forms a gasket between the combustion chamber and the cylinder, and at the other end the jacket is flanged, again forming a gasket between a heavy metal ring, that serves, to hold the jacket and cylinder in place and the cylinder, which is flanged and faced off as shown. A series of studs screwed into the crankcase receive the heavy ring just referred to, nuts on the outer side being tightened to hold the whole securely in place, the cylinder lining up against a flange faced off on the crankcase end and entering the crankcase slightly. The water jacket is tested under thirty pounds water pressure for leakage.

The construction of the crank bearings forms an interesting feature of the Cadillac motor. Split removable bushings are used, which are held in place by specially constructed removable bearing caps; so that the bushings may be renewed without taking down the motor. When a bearing cap is removed, the upper half of the crank bushing may be lifted off, after which it is an easy matter to turn the lower half of the bushing upward, when it may be removed and a new bushing put in its place. The design of these bearings is shown in the accompanying illustration, with the cap slightly elevated to show the under half of the removable bushing partly turned, previous to removal. The crank bushings are made of bronze, lined with a layer of babbitt scraped to fit a special Browne & Sharpe mandrel ground to standard crank size, so that all of these bushings are interchangeable and cannot fail to fit properly without scraping or other alteration, when received by a customer. All bearing bushings may be removed and replaced without the use of special tools, an ordinary cycle wrench being the only tool required.

The Leland-Faulconer Company prides itself on the interchangeability of the Cadillac motor parts. The cylinders are bored to size and tested by a hardened




CADILLAC MIXING VALVE AND INLET VALVE IN CROSS SECTION.

steel disc or mandrel, made by Browne & Sharpe, a second mandrel one 2,000th of an inch larger being used to verify the size. The first mandrel must be a perfect fit, while the second one must not quite enter the cylinder. This method of finishing cylinders and pistons makes them absolutely interchangeable and it is not found necessary or desirable to fit any certain piston to a certain cylinder when grinding the pistons. As a matter of fact the cylinders and pistons are kept in separate groups until the motors are assembled, when they are selected at random with assurance that they will fit perfectly.

Piston rings are turned eccentric, split diagonally, closed up, clamped and returned to a true circle. When fitted to the piston they are pinned to prevent the openings working into line.

The crank shafts and connecting rods are drop-forged, a special steel being used.

PNEUMATIC RIVETING TOOL AT WORK IN THE CADILLAC FACTORY.

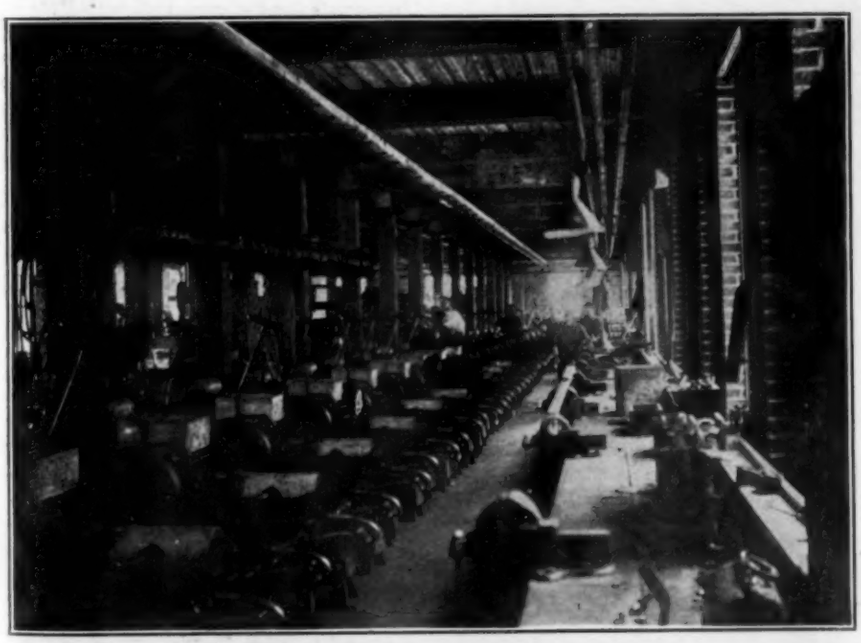
The crank shafts are ground to standard gauge sizes.

The inlet and exhaust valves are made of cast iron, riveted on steel stems. All valves are of the same size. The inlet valve is mechanically operated by means of an eccentric rod, as shown in the sectional drawing of the carbureter

and cylinder head. Reference to this drawing will indicate the inlet valve mechanism, showing the method employed to vary the lift of the valve to throttle the motor. Lever *O* is connected to a hand lever under the steering wheel. Moving *O* forward or backward actuates the roller *G*, which may be thrown into earlier or later relation with eccentric rod *C*, which terminates in a slanting cam, thus causing a variable lift to the inlet valve, through the medium of roller *S* and lever *T*. The shape of the eccentric rod *C* is shown in the side elevation of the motor.

The sectional drawing shows the design of the Cadillac carbureter or mixing valve. Air is taken in at the lower end of tube *K*, through the suction-lifted valve *L*, which controls the gasoline feed at *M*. When this valve is open gasoline drips into the gauze cone in the air supply tube, thus providing a saturated mixture. The maximum lift of valve *L* is determined by the adjusting screw *N*, regulation of which alters the richness of the mixture. The gasoline valve stem cushions against a thin steel spring against which the screw *N* presses. Variation in the motor speed changes the velocity of the in-going air, which regulates the lift of the baffle plate valve *L*, thus making a corresponding variation in the quantity of gasoline admitted.

GROUP OF CADILLAC DEMONSTRATORS.



ONE SIDE OF CADILLAC ASSEMBLING ROOM.

The transmission is of the planetary type, designed to give two forward speeds and a reverse. There are only nine gears in the entire transmission system, none of which runs faster than the motor shaft, so that the mechanism is quiet-running and not subject to excessive wear. The gears are all of the same diameter and number of teeth, with the exception of the large cast-iron internal gear, and are cut from drop-forged blanks. One of the members forms a case for the entire transmission, which, when closed and filled with oil, assures perfect lubrication. The sprockets and compensating gears used by the Cadillac company are supplied by the Brown-Lipe Company of Syracuse.

The Cadillac ignition plug is shown herewith. It will be observed that both poles are insulated, a mica composition being used for the cores. These cores are held in a cast-iron washer, as shown, which is faced off and fits in a suitable opening in the combustion chamber. It is held in place by a simple stirrup and screw device, and the whole may be removed in an instant. In case of necessity an ordinary ignition plug may be screwed into the retaining washer, replacing one of the insulating cores.

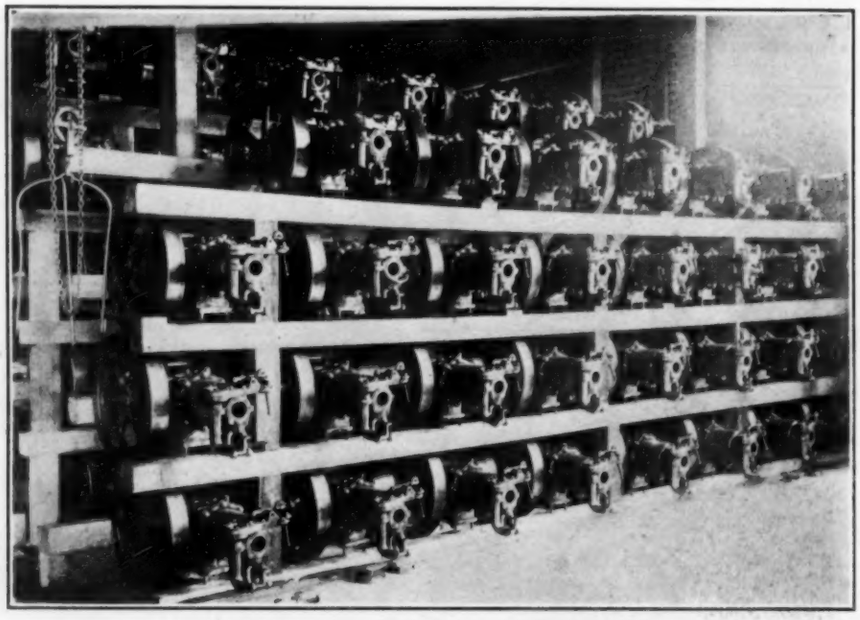
When completed, the motor, with the transmission gear, is mounted on a stand in the testing room and operated for varying periods to make necessary adjustments and brake tests. When starting the motors in the testing room they are not "cranked," but are simply turned over to the compression stroke, after which the switch is thrown over, the man grasping the flywheel and giving it a sudden impulse against the compression to the point of firing, whereupon the direction of rotation is quickly reversed and the motor continues to run. This novel way of starting the motors, while interesting to the visitor, is regarded as a commonplace proceeding by the men in the testing room, who find this method easier and quicker than the old-time "cranking."

After the motor tests are completed the motors are taken over to the Cadillac factory on drays and stored in a large motor room on frames carrying sixty-eight or more at one time. One of these frames with its complement of motors forms the subject of one of the accompanying illustrations. At the time this picture was taken there were 780 motors on hand, ready for mounting in running gears, which were being hurried to completion in other departments.

The frame pieces are drilled and riveted together by means of pneumatic tools, the operation being very interesting. The frame pieces are first drilled through jigs and clamped into the required position, with the holes registering, after which a red-hot rivet is brought from an adjacent forge, pushed through the holes, and headed over with the pneumatic riveting machine. In much less time than it takes to describe, this series of operations is repeated again and again, until the entire frame is completely assembled together with its brackets and lever hangers.

The assembling department at the Cadillac factory presents a scene of great

activity. Thirty machines, or more, in various stages of completion, line both sides of the room. When they are removed a set of testing wheels is quickly put into position, and a temporary body is thrown on—it is not attached in any way—and a man jumps into the driver's seat and is off with a rush to give the car its final trying out before shipment. Sixteen young men are engaged in this work, and as many as thirty cars go through their hands in a single day at times.



MOTORS STORED IN CADILLAC FACTORY.

## The "Northern" Company.

The home of the "Sturdy Northern" is at the corner of Canton Avenue and Champlain Street, where every part of this machine is made on the premises. The mechanical facilities include automatic gear cutters, screw machines, key slotters, flexible and radial drills, shapers and special boring machines. A complete blacksmith shop and forge room are features of the plant, as well as several large brazing ovens, where the vehicle frames are made up ready for assembling.

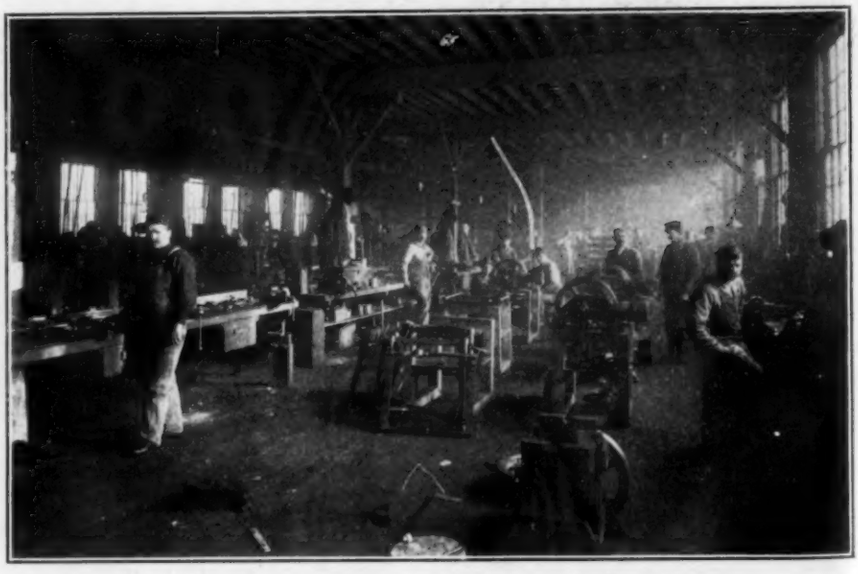
The Northern motors are tested very thoroughly; they are first belt driven for ten hours to wear the bearings to a perfect surface, and then operated under their own power for two days, during which time the necessary adjustments are made and the tests recorded. Ten motors are tested at one time, and the testing stands are never vacant.

Features of the Northern construction include ground crank shafts, pistons and piston rings. The piston rings are pinned in place to prevent turning. All journals are of liberal dimensions, carefully made and fitted.

After the cars are completed they are taken out on the road and thoroughly worked out in the hands of skillful operators. Reaching from the assembling room floor to the one above is a 27 per cent. grade, up which each car must climb both forward and backward, as a final test. The brakes are tested on this glade also, and they must be sufficiently powerful to hold the car without any indication of slipping.

The officers of the Northern Manufacturing Company are well known in manufacturing circles in Detroit, the president, W. T. Barbour, and vice-president, G. M. G. Gunderson, being prominent in the affairs of the Detroit Stove Works. The other officers are V. M. Gunderson, secretary, and G. H. Barbour, Jr., treasurer.

A light-weight gasoline touring car, driven by a two-cylinder vertical motor of twelve horsepower, is one of the Northern possibilities for the season of 1904.



ASSEMBLING ROOM IN THE "NORTHERN" FACTORY.

## At the Ford Co.'s Works.

Although comparatively young in the business of manufacturing automobiles, the Ford Motor Company is fortunate in having an experienced automobile engineer at the head of affairs; a man of quick, nervous temperament, running over with original ideas, and who accomplishes things. That man is Henry Ford, once in the service of the George Westinghouse Company of Schenectady, New York, and later chief engineer of the several Detroit plants of the Edison Illuminating Company. In 1891, while with the Edison company, Mr. Ford turned his attention to automobile construction and built a two-cylinder gasoline machine after his own designs. Later, in 1895, another vehicle was designed and built, this time with two opposed cylinders, and since then this type has been Mr. Ford's favorite, with a lapse early in 1902, when he designed the yellow Ford-Cooper racing machine and Barney Oldfield's celebrated "999."

In the fall of 1902 Mr. Ford designed the little 8-horsepower runabout that bears his name, entered into a preliminary business agreement with A. Y. Malcomson, a prominent coal merchant of Detroit, ordered materials for 650 cars, and during the few months following organized the Ford Motor Company, with a capital of $150,000. The first of the new cars was shipped on July 25 of this year, and between that date and November 1, 400 Ford cars were in commission. An extension to the plant, 170 feet by 200 feet, is now being completed.

The Ford company does not make its own motors, in fact the entire chassis is built outside, on contract, the Dodge

Brothers' Machine Company of Detroit having the work in hand this season. The Ford establishment is devoted exclusively to assembling, upholstering and finishing, with an experimental department in charge of Mr. Ford, and these departments comprise the Mack Avenue works. Thirty or forty vehicles may be seen in the assembling room at any time.

The Ford runabout has been described in the pages of THE AUTOMOBILE, but the accompanying illustrations show a number of features that have not been made clear in previous descriptions.

The rear view of the chassis is interesting as it shows the sub-frame which supports practically the entire mechanism of the car, including the water and gasoline tanks and other parts. This frame rests on and is bolted to the main vehicle frame, which is made of angle iron. In this illustration the centrifugal circulating pump, which is at the end af the motor shaft, the large muffler, the battery box, containing two complete sets of cells, the rear axle construction, the spring hanger, which is shown more in detail in a separate illustration, the sight feed lubricator from which the oil is forced to the two cylinders and the main crank bearings by utilizing the pressure in the crank case. the central location of the flywheel, the A-frame, supporting the rear end of the water tank and other interesting features are shown. The clean-cut appearance of the chassis, just as it is delivered from the Dodge establishment, is shown in the side view herewith. It will be seen that little work is necessary to complete the car, and the total absence of vexatious delays so common to a manufacturing enterprise, makes it possible for the Ford company to turn out a great many vehicles in a short space of time.

A feature of the vehicle is the rear spring suspension, and the means employed to adjust the driving chain. This construction is clearly shown in the illustration of these parts. The angle-iron frame carries a forged extension at each rear corner. which carries a stud fitted into a bracket attached to the spring in the usual way. The rear axle is provided with studs, near its ends, which project up through slots in the lower spring brackets, nuts being fitted to hold the axle in place. Two long set screws are screwed into the spring brackets, and these are used to make the chain adjustments. It is only necessary to loosen the stud nuts to free the axle, which will slide easily in the bracket slots, when the set screws are tightened; after which the axle-holding nuts should be set again. The illustration shows this device clearly; the head of one of the chain adjusting set screws can be seen between the distance rod swivel and the lower half of the spring.

Early in the Selden patent agitation the Ford Motor Company assumed a position of strong independence, and few people were surprised when it was the first to defy the newly-formed Association of Licensed Automobile Manufacturers The man behind the Ford gun is J. S. Gray, president of the company, and president of the German-American Bank of Detroit, a sturdy Scot, and a born fighter. Mr Gray came into prominence in the legal arena some time ago, when he waged a fierce war against the candy trust in defense of his rights to the glucose patents, in which he was interested as a large candy manufacturer.

## Detroit's Specialty Manufacturers.

### THE BRISCOE MANUFACTURING COMPANY.

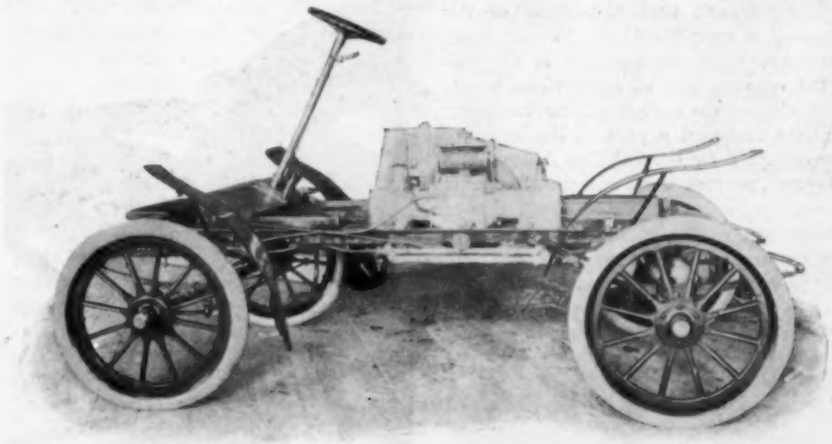
The history of Detroit's automobile manufacturing activities cannot be considered complete without reference to the large local makers of automobile specialties and accessory parts who have drifted into the manufacture of these goods by force of circumstances, and others who have been attracted to the city because of its leading position in the trade and the natural advantages to be derived from being on the spot.

The Briscoe Manufacturing Company, a long-established metal working concern took up the manufacture of automobile radiators in a small way some years ago, and the business developed so rapidly that this work is now one of its leading branches. Other specialties have been added from time to time, and now the company virtually controls the local demand for gasoline tanks, water tanks and other parts, at the same time carrying on a large business in the manufacture of mufflers, metal fenders, motor bonnets and other sheet metal fittings. As the business has increased additional room has been required, and now the Briscoe company occupies the entire building in which it was once the sole tenant.

A new honeycomb radiator is to be introduced in the near future under the trade name of the "Detroit." It is made up of 5-16 inch square tubes set diagonally and separated 1-16 of an inch to form the water spaces. The construction of this radiator is very simple and the cost of manufacture is low enough to enable the company to sell the new cooler at a reasonable price, while at the same time the apparatus is very efficient.

The Briscoe Manufacturing Company has installed an elaborate experimental department, where exhaustive tests have been made to prove the efficiency of its radiators, under road conditions as nearly as they can be duplicated. The results of these tests and additional data regarding the efficiency of radiators of different types and sizes is now being tabulated and will be published in the near future for the guidance of automobile manufacturers.

The equipment of presses has been materially augumented of late and the press-room now contains forty powerful machines, including several large drawing



CHASSIS OF THE FORD CAR.

MOTOR, TRANSMISSION, TANKS AND LUBRICATOR.

Forming a Power Unit in Ford Car.

FORD CHASSIS, REAR VIEW.

presses. One of the latest additions to the plant is a japanning-room which has been especially equipped. for finishing automobile fenders and motor bonnets in the best manner. The Briscoe company recently purchased the patents and business of the Ray Automatic Machine Company, of Berea, Ohio, and the Ray equipment has been removed to the Detroit works.

### Automobile Body Makers in Detroit.

Accustomed to look for big things in the automobile line in Detroit, one is not surprised to find the largest auto body manufacturer in America in the City of Straits.

The C. R. Wilson Carriage Company was formed just about the time that George B. Selden applied for his celebrated patent, and it enjoyed a prosperous carriage making business for many years, naturally drifting into the manufacture of automobile bodies as the new business developed. It is significant that the name of the company is now the C. R. Wilson Body Company, while its business is devoted to the construction of automobile woodwork almost exclusively. The company formerly occupied a part of the building now occupied by the Cadillac Automobile Company, moving to its new quarters near Milwaukee Junction in late 1902.

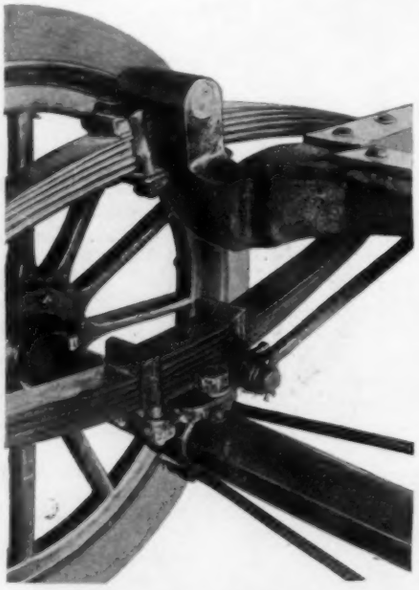
Some idea of the extent of the business now conducted by the Wilson company can be gained when it is stated that 500,000 feet of one-inch poplar, not less that eighteen inches in width, has been required during the past season for the construction of tonneaus alone; half a million feet of white ash has been fashioned into automobile frames, and one million feet of five-eighths inch poplar has been used for side panels, tops and other parts. Within the last two weeks twelve cars of selected lumber, every car worth not less than $1,000, has been received at the C. R. Wilson Body Company's plant.

The company employs its own expert designers, and every man in the works is skilled at his special work. Mr. Wilson points with pride to the fact that the average weekly wages of every man in the works, down through the rank and file, including the office boy, was not less than $16 weekly during the closing season.

Mr. Wilson first turned his attention to automobile work five years ago, in an experimental way. He made the early Oldsmobile bodies, the Cadillacs, Fords and others, and he has made thousands since, as well as bodies for the Peerless company of Cleveland and the Elmore people at Clyde, Ohio. A powerful bending machine was recently designed and installed for forming individual tonneau seats. The wood is first steamed and then bent around a solid wooden form by steel bands, subjected to tremendous pressure.

It is interesting to note the rapidity with which the men work when trained to special duties. A case in point is that of a man who attaches light ornamental beads to give a finish to the side panel of a runabout; he uses a long-nosed hammer which is magnetized so that it will pick up the small nails or brads like the hammers used by carpet-layers. He holds the bead in place, picks up a tack with the magnetized hammer, strikes a quick blow, and the nail is driven home at a single stroke. Another man attaches dash-boards and does nothing else; another lays flooring in the body frames; a fourth glues and screws the necessary braces in place, and so the body grows as it is passed from man to man, until the finished product is ready for shipment.

Although the Wilson company makes a specialty of automobile work, other Detroit concerns make a great many automobile bodies, notably the Detroit Carriage Company, whose well-equipped factory is also located near Milwaukee Junction. The Detroit Carriage Company has made hundreds of bodies for the Olds Motor Works, and a great many for the Cadillac company and other large automobile manufacturers. It is estimated that nearly 50 per cent. of the total output of the Detroit Carriage Company for the season of 1904 will be automobile bodies, as a number of large contracts are on hand at the present time.



REAR SPRING FRAME PIVOT AND CHAIN TIGHTENING DEVICE—FORD CAR.

Another body manufacturer, the Michigan Automobile and Carriage Body Company, was incorporated early in the present year, with a capital of $10,000, and a shop has been secured at 1425 Gratiot Avenue, where automobile and carriage bodies and fixtures are now being turned out.

### Other Detroit Manufacturers.

There are a number of manufacturers in Detroit who make auto-specialties, although not directly in the automobile business. The Detroit Motor Works, manufacturers of stationary and marine gasoline motors, have now introduced the "Sta-Rite" spark plug to the auto trade. This plug is sold by many dealers in different parts of the country. The "Sta-Rite" plug was first exhibited at the Chicago Automobile Show in February, 1902, although it has been on the market for several years previously.

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The Schug Electric Company, 246 Jefferson Avenue, has been manufacturing spark coils for all types of gasoline motorcycle and automobile motors for some time, and an arrangement recently effected under which the Schug specialties will be manufactured and sold by W. E. Metzger of Detroit, promises a still larger market. The Schug coil is wound with silk-covered wire; the contact points are made of iridium and platinum; the vibrator bracket is specially designed so that vibrator adjustments can be made without disturbing the coil, and other special features are pointed out by the manufacturer.

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The Wheeler Manufacturing Company makes a specialty of automobile seats and hampers of reed, especially adapted to light runabouts such as the Oldsmobile, the Northern and Rambler cars. The Wheeler hampers are made in various sizes and shapes, including special styles for touring cars. The dos-a-dos seats made by this company have become very popular for light vehicles, and a large demand has been developed for them both in this country and abroad.

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The Diamond Stamped Ware Company manufacturers of copper and brass specialties, has branched out into the automobile business, and is offering radiators, water and gasoline tanks, drawn cylinder jackets and motor bonnets to the trade. Special machinery has been installed for manufacturing these various specialties.

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The Crescent Machine Company is known to the trade as manufacturers of the Huff spark coil.

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The G. B. Essex Brass Company is now making lubricators for the automobile trade, and circulating pumps and vaporizers are to be manufactured in the near future.

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The Detroit Leather Specialty Company has designed an automobile glove known as the "Boulevard," which is sold through the supply stores and accessory dealers. The company occupies a three-story factory on Beecher Street and has facilities to make 100 dozen pairs of automobile gloves a day.

## Retail Trade and Garages.

Ten years ago Wm. E. Metzger first turned his attention to the early experiments in the automobile field, and in 1895 he studied the new industry thoroughly in Europe. Then he decided to wait. To-day the Metzger establisment is by far the largest in Detroit, and one of the most complete in the country, occupying a fine six-story corner building at 265-69 Jefferson Avenue.

Mr. Metzger brought a Waverley electric carriage to Detroit in 1899 and offered it for sale in the store he then occupied in the old Biddle House, now the local headquarters of the Fisk Rubber Company. During the season the Mobile steam car agency was secured, with profitable results, and the year following the Oldsmobile and Winton cars were added to the list.

The old store soon proved entirely inadequate for the growing business, and arrangements were made for the occupancy of a new building which was to be erected at the corner of Brush and Jefferson Avenues. This building was completed and occupied by the Metzger establishment in August, 1901. The Baker and Columbia electric cars were then secured, and the Toledo steam and gasoline machines, as well as the Geneva steamer.

Erected solely as an automobile repository, the new building was considered very complete, but this year the question of more room again presented itself and it

AUTOMOBILE EQUIPMENT COMPANY.

was decided to add four additional stories, which was done early this summer. Changes now being made will result in very marked improvements. The main floor will be used for a show room, exclusively, with the exception of a section at the back which will be used as a stock room. A large turntable greatly facilitates the handling of vehicles. A fully equipped tire room and a wash rack with latest washing accessories is found in the basement.

The electric vehicle charging department is on the second floor, the front part of which will be occupied by the offices of the company. The gasoline vehicle repairing department is on the third floor in conjunction with which is a well equipped and complete machine shop. The repair department for electric vehicles is on the fourth floor, together with a battery room

METZGER'S AUTOMOBILE HEADQUARTERS.

which is fully equipped with lead-lined sinks and other desirable fittings. The two additional floors will be used for storage purposes and the manufacture of sundries. A leading specialty which is to be made and marketed by Mr. Metzger is the Schug coil, notice of which is made elsewhere.

A large electric elevator, powerful enough to handle any car now on the market, connects the various floors, and a small dumb waiter has been installed to carry accessory parts to the various departments. Every room in the building is connected by a private telephone system.

In addition to the cars named, Mr. Metzger has been appointed local agent for the Packard Motor Car Company, now of Detroit, and as sales manager for the Cadillac Automobile Company he has the exclusive sale of Cadillac cars.

Mr. Metzger is assisted by a number of young men well known in the automobile trade, including W. F. V. Neumann and, Frank Riggs, in the business department. Jack Brady, whose specialty is the sale of electric supplies, W. B. Hurlburt, gasoline vehicle department, and Carl Formhals, purchasing agent.

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Located in the center of "automobile row" on Jefferson Avenue is the extensive garage and salesrooms of W. C. Rands and Company, where a full line of Oldsmobiles may be seen as well as a variety of National Electric vehicles. The company does a general jobbing and retail bnsiness in automobile accessories and parts, and sells second-hand vehicles as well. The business has grown rapidly, and the present quarters are none too large to take care of the repair work and other branches that have been added from time to time.

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Another Detroit automobile dealer, a graduate from the bicycle business and a practical mechanic, is J. P. Schneider, whose garage and agency is located at 189–91 Jefferson Avenue, not far from W. E. Metzger's. Mr. Schneider sells the "Silent Autocar," the Northern and the Elmore cars, and conducts a storage business as well, which is growing rapidly.

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Attracted to Detroit because of its prominence as an automobile manufacturing center, the Automobile Equipment Company, formerly of Indianapolis, leased a four-story brick building at 251 Jefferson Avenue, during the summer, and is now offering a complete line of patented rain boots and aprons, chain protecting aprons, motor protectors, and other leather specialties. A large salesroom has been fitted up on the lower floor, finished in a most artistic manner in weathered oak, with office fittings to match. In addition to an extensive jobbing trade, which was developed in Indianapolis, the company has now built up an active local retail business, selling a general line of automobile supplies, in addition to the specialities mentioned.

### New Automobiles.

New automobile concerns are coming to the front rapidly in Detroit, one of the leaders being the "Silent Wolverine," made by the Reid Manufacturing Company. The Hammer-Sommer Auto Carriage Company has been incorporated to make a light weight gasoline runabout, and other cars are to be put on the market by the Reliance Automobile Company, the Lafayette Automobile Company and Max Grabowski, who has a number of attractive gasoline delivery wagons in service in different parts of the city.

SCHNEIDER'S AGENCY AND GARAGE.

### Damages for Disregarding Signal.

Two damage suits aggregating $15,000 have been brought against Louis T. Wiss of Newark, N. J., by James L. White and George C. Hudson of Sloatburg, N. Y., who allege that Mr. Wiss, in violation of the automobile law of New York State, on June 14 last drove his machine past a team of horses drawing a wagon in which the plaintiffs were riding, paying no heed to the holding up of the right hand as a signal. The horses ran away, threw White out and injured his knee. White wants $10,000 and Hudson wants $5,000, the latter alleging that he owned the team, which was ruined through the accident. Mr. Wiss declares the charges are untrue and that he was proceeding in a perfectly lawful manner when the accident occurred.

## DIFFICULTIES OF AUTO TOURING IN MISSOURI.

William Huttig and W A. Rule both of Kansas City, Mo., accompanied by Mrs. Huttig and Mrs. Rule and two experts, started on an automobile trip to Macon, Mo., recently, in Mr. Huttig's touring car. Elaborate preparations were made for the journey; a glass front and side curtains were fitted to the car, and a small stove was installed to keep the passengers warm. After experiencing many difficulties not down on the program, as originally laid out, the trip was abandoned at Carrollton. The many vicissitudes of fortune attending the tourists are best described in the words of Mr. Huttig:

"We stopped whenever we met a horse attached to a wagon and one of the boys would help get the horse past the machine. We met an elderly woman driving one horse to a buggy and helped her around the machine. When she got past she said: 'Look in the back of the buggy. I carry that shot gun for people that won't stop. I use it, too.' It was an old pattern of shot gun that looked vicious enough to make us glad she had not taken a notion to use it on us.

INCIDENTS OF THE TRIP.

"Farther down we met an old man driving an old gray mare. He said his horse wasn't afraid of anything, that he often fed her alongside of an engine, but we had to unhitch her and it took four of us to back her past the machine. Ten men couldn't have got her around head foremost. The last we saw of them the mare was kicking with all her might, but the old man said it was all right, she often did that.

"We got a 12 o'clock luncheon at Lexington and went down to the ferry. While we were waiting for the boat farmers inspected us and the machine. One old man said to Rule, 'What kind o' patent medicine is you all a' sellin'?'

"We got along well enough in Ray County and the trouble we had in Carroll was due to the way they build their roads, high in the middle. The machine is built so low that we could not follow the wagon track without striking the middle of the bank so we had to run on one side. About seven miles this side of Carrollton we were speeding along over a level road making good time when we got too far down on the side and the boys saw that the only way to keep her from turning over was to run her into the ditch. We plowed into the mud and the wheels kept on turning till they were down a foot into the mud and on solid ground. It looked as though we were there to stay. It was 4.30 in the afternoon.

MACHINE STUCK IN THE MUD.

"Mr. Rule walked a mile to a farmhouse and got the farmer, Mr. Price, who brought a huge pole twenty-eight feet long and some blocks to pry the machine out of the mud."

Mr. Huttig says Mr. Rule held two lanterns for the rest to work. The pole was used as a lever and because he was the heaviest Mr. Huttig became an important part in the raising of the machine. J. M. Wilcoxon, banker, at Carrollton, was notified by telephone of the predicament of his friends and sent carriages for them. They spent the night at Carrollton and the next morning the machine was hauled in with four mules. They started home in the automobile yesterday afternoon but turned back at Hardin and ran back to Carrollton, where they took the train for home. "We put out the lights," said Mr. Huttig, "and sneaked into Carrollton very quietly the next time. We did not go to Macon, but telegraphed our sons where we were and what had happened to us."

### Road Locomotives in War and Peace.

The many varied uses to which the road locomotive or steam traction engine is applied by the European nations are mentioned in the consular report for November 16 by United States Commercial Agent Harris, of Eibenstock, Germany, who, after quoting from a recent book by an instructor in the Royal Russian War Academy, to the effect that "the road locomotive is destined to play a very important part in the future" in transporting army supplies, as, when "in time of war railway lines as means of communication are often destroyed," makes the following observations:

"The road locomotive is used by the armies in Europe for a great many practical purposes. The transportation of heavy siege guns across country, the moving of the machinery of balloon detachments and iron and steel targets from place to place, not to speak of their use as engines to drive dynamos, threshing machines, plows, etc., all show the many practical benefits of such locomotives.

In 1899, when the Boer War was well under way, the English Government ordered a large number of road locomotives and during the progress of the war the heavy guns of the English warships were often brought into use to support the regular field artillery. It was impossible to haul such guns across unbroken veldts with spans of oxen. The practicability of such locomotives to pioneers in a new country is apparent. In such countries as South Africa, Siberia, and the States on the lower Danube and in the agricultural districts of Prussia it is claimed that German firms are doing a good business in the sale of these machines. Their utility has often been demonstrated in plowing. With the assistance of a portable windlass, anchors, and the necessary steel-wire rope, together with a universal joint for coupling to the flywheel of the engine, an eight-furrowed plow may easily be set in operation. This applies equally well to harrows, disks, rollers, and drawing and ditching machines. These locomotives may be further utilized on farms for pulling down trees and hauling heavy loads of lumber.

### Prize-winning Decorations At San Francisco

A grand parade of decorated and illuminated automobiles was held in San Francisco on the night preceding the recent three-days' race meet on Ingleside track. Nearly 100 cars participated, and many others, occupied by spectators, were lined up along the streets. The decorations were of some interest.

A $100 silver cup, offered as a prize for the best decorated vehicle by the White Sewing Machine Company, was awarded to A. E. Cooper, whose Cadillac was decorated with smilax, La France roses and asparagus plants. And second and third prizes went to Joseph Holle in a Knox almost hidden by a canopy of chrysanthemums and smilax, and Mr. and Mrs. T. Nelson, also in a Knox which was surmounted by a cluster of silk American flags and hung with green sprays and orange-gold California poppies.

### Damage but No Damages.

John N. Maher of St. Louis, brought suit against the St. Louis and Meramec River Railroad Company sometime ago in the amount of $1,100 for wrecking his automobile, a car of that company having struck the machine on August 7, 1902. Last week Judge Douglass, of the circuit court, took the case from the jury and ordered a verdict in favor of the railroad company.

Clarence Rothwell, son of the head porter of the Woldorf-Astoria Hotel, New York, recently won a $1,175 automobile at a harvest festival for the benefit of the School for Crippled Children, where a raffle was held, chances costing $1.00. When Mr. Rothwell bought his ticket he gave the name of his fiancee, to whom the vehicle now belongs, and she is reported as being undecided whether to sell her automobile or to store it until her marriage when she may go on her wedding journey in the car.

For the first time Parisian pawnbrokers have been called upon to accept automobiles in exchange for cash advances, and they are reported to be making a harvest out of this new branch of a business which was already profitable. Francisco Terry, the spendthrift son of Emilio Terry, brother-in-law of Count Stanislaus de Castellane, has pawned five expensive automobiles for comparatively trifling sums within a week. Among the machines pawned by Terry is a well-known Paris-Bordeaux racer, and a 60-horse-power Mercedes, which the young man bought only a few months ago.

# Features of the F. I. A. T. Car.

The Italian automobile industry is to be represented in next year's Gordon Bennett Cup Race by three 60-horsepower F. I. A. T. racing cars which are now being built for the great event.

The Fabrica Italiana di Automobili Torino, which, abbreviated to F. I. A. T., gives the trade name to the cars of its manufacture, has shipped few machines to this country in the past, but arrangements have now been made for adequate representation here, Hollander and Tangeman having secured the sole agency for the United States, with headquarters at No. 5 West Forty-fifth Street, New York.

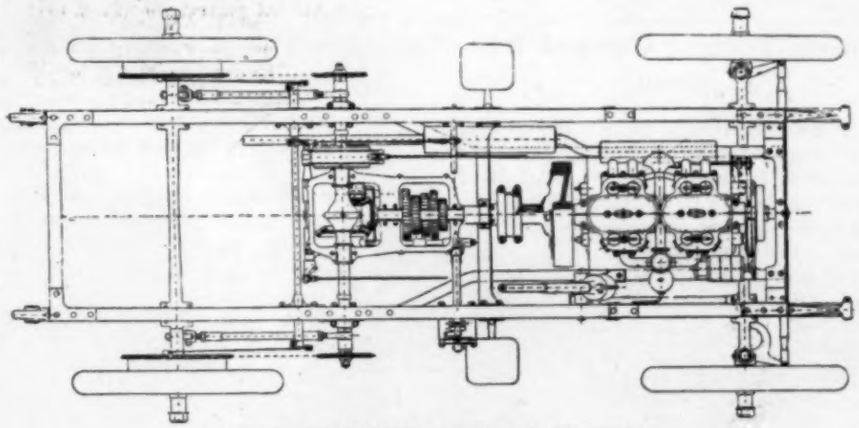
Mr. Hollander, a prominent Bostonian residing in Paris, has represented the manufacturers of the F. I. A. T. car in France for some time, only lately relinquishing that connection to take up the agency in this country. Mr. Tangeman purchased a F. I. A. T. car in Italy three years ago, and after a six months' tour of Europe, brought the vehicle to this country, firmly convinced that it represented the highest type of foreign automobile construction. He is now driving a 1903 model F. I. A. T., and Mr. Hollander is coming to this country with five 1904 cars for the American market.

Broadly speaking, these vehicles are not unlike other foreign automobiles of recent design, as will be seen on referring to the accompanying drawing of the chassis, but they possess a number of special features that are of more than passing interest.

In place of the usual universal coupling between the motor and the transmission mechanism, a leather coupling is employed. This coupling comprises two steel drums, each six inches in dameter, and separated about three inches, one of which is attached to the movable clutch member, and the other to the primary transmission shaft. These drums are connected by a piece of leather belting about three-eights of an inch in thickness, held in place by equidistant projecting pins and is prevented from lifting off by steel bands which clamp the belt tightly to the discs. This form of coupling, which is shown clearly in the accompanying illustrations, has been employed for several seasons by the F. I. A. T. people with success. It is flexible, direct, has no wearing parts, and therefore needs no lubrication.

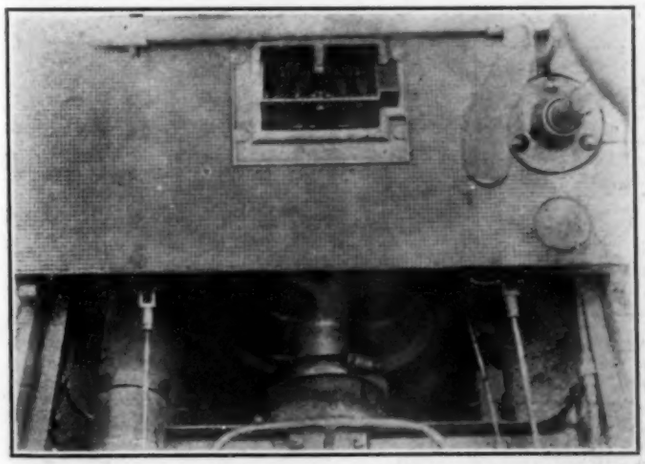
The automatic cylinder lubricator, which is another interesting feature, can be seen in this illustration, also. The oil is lifted from the main reservoir by four small buckets, which overturn at the highest point of their travel, allowing the contained lubricant to flow into four hoppers, each of which is connected to one of the motor cylinders, by a small copper tube. As the lubricator is driven direct from the motor shaft, its feed varies according to the speed of the motor, stopping altogether when the motor stops. The apparatus is set with its lid nearly flush with the slanting foot board of the car, and a small projection affords a means to lift the lid with the foot, to ascertain the quantity of oil in the main reservoir.

The F. I. A. T. car is driven by a four-cylinder vertical motor, the principal feature of which is the method of control. There are two separate governors, one of which regulates the throttle valve, times the spark and varies the timing of the mechanically operated inlet valves, according to the speed of the motor, while the other governor times the opening of the exhaust valves, also depending on the motor speed. As the motor is accelerated, the valves are automatically opened earlier, so that their full apertures will be presented at the proper period of each stroke, the principle being the same as that involved in advancing the spark. The various functions performed by the two governors are subject to manual control through the medium of a foot accelerator pedal only, there being no spark or throttle hand levers.

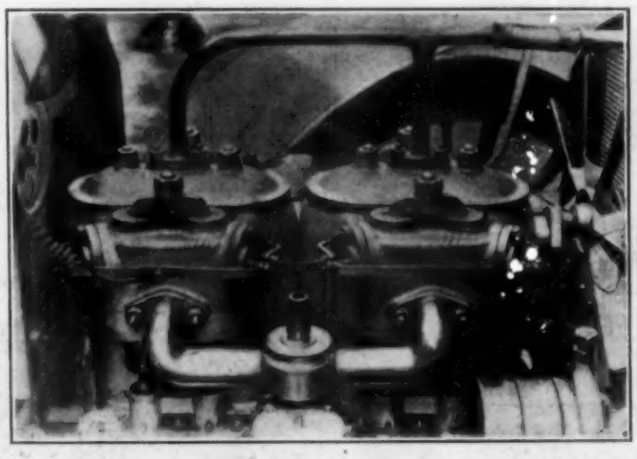


PLAN OF CHASSIS OF F. I. A. T. CAR.

The ignition system is of the primary make-and-break variety, electricity being supplied by an alternating current magneto; no coil or battery is required. The company has secured the sole European rights to the Daimler radiator patents, and a Mercedes honeycomb cooler and fan, and a gear-driven pump, completes the circulating system, which contains seven quarts of water. The weekly loss, due to evaporation, is only one pint.



DOWNWARD VIEW SHOWING LEATHER SHAFT CONNECTION.



INTAKE SIDE OF MOTOR SHOWING VALVE CONTROL.

The F. I. A. T. transmission is designed for four forward speeds and a reverse. The frame is of pressed steel. Ball bearings are used extensivly in the transmission, and in other important parts of the mechanism. The body is of the King of the Belgians type. The side panels are of pressed steel.

The company builds three types of cars at the present time, one of 16-20 horsepower, one of 24-30 horsepower and a 60-horsepower racing car. Mr. Tangeman expects to compete in the coming Daytona Beach races in Florida with a 60-horsepower F. I. A. T. racer which he has ordered for early delivery.

## Grout Touring Car and Runabout.

The new touring car to be made for 1904 by Grout Brothers of Orange, Mass., has the boiler in front under a bonnet fitted with the Grout patent draft which carries all fumes and heat, if any, to the rear of the car. The engine is horizontal and placed directly under the footboards; it is entirely encased and dustproof, with short chain drive to the countershaft and from the countershaft to each rear wheel, and has sight-feed lubricators. The water pumps and air pumps are entirely independent of the engine. The water tank, of thirty gallons' capacity, is in the rear of the car, and the fuel tank, of twelve gallons' capacity, under the front seat. With the aid of a condenser this car will run between 90 and 100 miles without recharging. It has an angle-iron frame, 84-inch wheelbase, 30-inch wheels, with plain bearings and 4-inch tires. The throttle is conveniently located on the hand steering wheel.

GROUT STEAM RUNABOUT WITH HORIZONTAL ENGINE.

This car is designed and built for the roughest kind of use, having a sustained speed capacity on the level of from thirty to forty miles an hour and being able to mount 25 to 35 per cent. grades with five people aboard. It has long springs, contributing greatly to comfort in riding. The car retails for $2,000.

In the Grout runabout the space under the bonnet is occupied by the water tank, which has a capacity sufficient for a run of thirty to forty miles. The generator is placed under the seat and the engine is disposed horizontally directly over the rear axle, which it drives by a short chain entirely encased. It has a reachless frame with long wheelbase, 40-inch half-elliptic springs and wood artillery wheels. There is a flat railed platform at the rear adapted for carrying a sample trunk, sewing machine, typewriters or similar articles, thus adapting it excellently to the requirements of traveling salesmen. It is also arranged so that an auxiliary surrey seat can be added at an additional cost of $50. It has either wheel or side lever steering. This car is built to maintain a speed of fifteen to twenty miles an hour over ordinary roads and to climb grades of 25 to 35 per cent. It will run from 90 to 100 miles with one filling of the twelve-gallon fuel tank. The list price is $650.

GROUT STEAM TOURING CAR WITH GENERATOR UNDER BONNET

## New Pope-Robinson Cars.

The new Pope-Robinson touring car presents no radical departures from that offered in 1903, but a number of improvements in details of running gear, transmission, control, etc., which will be gathered from the following general summary of the features of the car:

The frame is built up of planed channel steel, with heavy angle corners hot-riveted together. The front and rear ends of the side channels are carried out to form the spring supports, and the springs are of unusual length—36 inches front and 48 inches rear, both semi-elliptic. No false frame is used, both engine and gear box being supported by cross members of the frame. As will presently be seen, this is accomplished in such a way as to avoid all danger of cramping the shafts.

The engine retains its general form, with four cylinders, 4 inches bore by 6 inches stroke. The exhaust and inlet valves are on opposite sides and can be removed without changing any adjustments. The crank shaft has five main bearings, and is lubricated by splash. The normal speed is given as 750 r. p. m. The Longuemare carbureter is used, with throttle control. Current for jump-spark ignition is furnished by a Vesta storage battery, located in the rear of the car, and by a small dynamo driven by a belt from

the flywheel. The location of the dynamo is said to be such as to protect it fully from water, mud and dirt. Provision is made for starting the motor by the spark, without cranking, if there is compression.

The engine is supported by two cross channel members, one at each end of the crank case, riveted to the main frame. The gear case is similarly supported, except that, while its front end is rigidly supported at two points, its back end is supported at only one. This gives a three-point support which is intended to keep the engine and gear shafts in line. In addition, the transmission from the one to the other is through a claw coupling, and claw couplings are also interposed in the cross countershaft between the bevel-gear differential and the sprockets, preventing any possibility of cramping.

The transmission itself gives three forward speeds and reverse by sliding gears, the high speed being direct. An interlocking device prevents meshing the gear at the wrong time. The gears are cut from the solid and case-hardened. The case is aluminum, and its cover is so arranged as to be removable without disturbing gears, operating levers, or body.

Instead of the usual cone clutch, the Pope-Robinson car has an expanding metal ring, 15 inches in diameter, working inside the flywheel rim. It runs in oil, and on account of its very large size can be slipped almost indefinitely. When worn, it is adjusted by a single screw.

The same flywheel carries a fan by which air is drawn through the radiator and discharged beneath the floor of the car on the Mercedes system, the bonnet being air-tight. The Whitlock radiator is used, with a gear-driven pump which only aids the natural tendency of the circulation.

The braking system comprises a service brake on the differential and emergency hub brakes. Both have steel drums and phosphor bronze shoes. Steering is by irreversible screw and nut, with suitable adjustments for wear. The box containing the screw is mounted on the cross-channels which carry the engine, and a spring cushioning device is used in the link between the steering box and wheel knuckles. All parts of the steering gear are higher than the front axle, and are therefore well protected from road obstructions.

The pedal control system is used, with the operator's seat on the right. Two small levers working over notched sectors on top of the steering wheel regulate the throttle and spark. They are supported by tubes inside the steering column, and do not turn with the wheel. The gear shifting and emergency brake levers are on the right side of the frame. On the back of the dasher are the starting switch, cut-out switch, sight feed oiler to engine, muffler cut-out, pressure gauge, air pump and clock. A feature of the pedal control system is that the differential brake pedal does not release the clutch, though the emergency brake lever does.

Lubrication is by splash in both crank case and gear case. The steering box is filled with grease and will run a season; the wheel hubs are filled with grease or oil according to the season. Of supplies, three gallons of lubricating oil, four and a half of water, and twenty-one of gasoline are carried, this being sufficient for 200 miles of ordinary driving. Without supplies, the weight of the car is put at 2,400 pounds.

The wheels are 34 inches, with 4 1-2 inch Goodrich tires. The wheelbase is 8 feet, and gauge 56 inches, or standard. The regular body style is King of Belgium aluminum tonneau, seating three people, but any other style will be furnished. Upholstery is in hand-buffed leather, with glove pockets, pouches, etc. The equipment includes two Gray & Davis acetylene lamps with mirror lens reflectors and generator on side of car; two oil side lights; one tail light, two side hampers, two mahogany tool boxes and full equipment of tools, mats, and an extra supply of small parts.

POPE-ROBINSON TOURING CAR WITH FOUR-CYLINDER ENGINE AND MERCEDES COOLING SYSTEM.

## Want "Sidewalk" Brokers Suppressed.

BOSTON, Nov. 30.—Steps were taken at the last meeting of the Boston Automobile Dealers' Association, looking toward the abolition of the so-called sidewalk broker, a special committee being appointed to take up this matter. The members of the association are strongly opposed to permitting others than regular agents with established offices to receive commissions on the sale of automobiles. The committee consists of Harry Fosdick, Alvin T. Fuller and George G. Reed. It will also consider freight rates on automobiles and other matters of interest to the trade. At the meeting A. E. Morrison, of the Peerless Motor Car Company, Ralph Coburn, of the Crest Manufacturing Company, and A. E. Gilmore, of Thomas B. Jeffery & Co., were elected members. The officers elected were as follows: President, Kenneth A. Skinner; vice-president, W. E. Eldridge; treasurer, A. P. Underhill; secretary, Chester I. Campbell. Mr. Campbell was appointed as general manager of the show to be held in Symphony Hall in March.

# Correspondence

## Missed Explosions.

*Editor* THE AUTOMOBILE:

I am having lots of trouble with the sparking on my automobile. It is a six horsepower, single-cylinder machine, equipped with induction coil. It has always given me trouble more or less since I have had it (that has been since last spring) by missing sparks, and I have sometimes had to take a tow home. The wiring is all tight and connections perfect so far as I can see. If you think the trouble is in the coil or plug, what would you recommend? The batteries show thirteen volts by test. The last battery used was Columbia, good and strong, yet it would misfire, especially when the speed was high. D. B. MILLERS.

*Mitchell, S. D., Nov. 23.*

If the misfiring occurs most often when the motor is running free and at high speed, the trouble is probably due to a broken wire or loose connection somewhere. A wire will sometimes break inside the insulation, close to some rigid connection such as a switch, and only a very thorough search will disclose the fact. If this is not the trouble, the wire from the coil to the plug may run close to some metal part of the machine into which the spark may jump through a defect in the insulation when the wire vibrates close enough. Your voltage is much too high, and there is danger of damaging the coil if you have not done so already. If you have eight cells, they should be connected four in series, two in multiple. After you have satisfied yourself that the wiring and insulation are all right, you can determine whether the coil is sound by pinching the spark points a little nearer together, say to 1-32 inch apart. If this, with your eight cells in series, does not give regular sparking when replaced, the coil has been damaged and must be sent to the makers for repairs. If the coil is sound, six volts should be enough for regular use.

## Seamless Zinc Cup.

*Editor* THE AUTOMOBILE:

We note Mr. L. F. Buffs communication and your reply to same. We desire to call your attention to the fact that the writer has recently patented a seamless zinc cup for dry batteries. Patent No. 731,422. V. G. APPLE.

*Dayton, O., Dec. 7.*

Mr. Buff had suggested seamless zinc cups as an improvement for dry batteries, and the reply had been made in these columns that zinc could not be drawn cold, being too brittle, and that herein probably lay the explanation of the suggested improvement not having appeared. We are glad to learn that Mr. Apple, whose igniter is so well known, has overcome this difficulty—probably by drawing, spinning or stamping the zinc hot. We would suggest that inventors of new practical appliances of usefulness in automobile work communicate with THE AUTOMOBILE of their own accord, as soon as their patents have been allowed, so that information in regard to their work may be placed before the world as early as possible.

## Steel Tires Again.

*Editor* THE AUTOMOBILE:

In THE AUTOMOBILE of the last week of November, I am taken to task by E. A. R. for my advocacy of the steel tire. He suggests that I give further particulars of my 1896 automobile, which is still running with steel tires.

In the first place my former letter started out with the question, "Why not use steel tires for *racing* machines?" It will thus be seen that I mainly advocated steel tires for racing machines, and I certainly did not state that steel tires were adapted for use upon touring cars or other automobiles running at high speed on rough roads. But, for racing machines running upon a smooth track, or for heavy steam or gasoline trucks moving at a slow speed on ordinary city streets, or even rough roads, the steel tire is, in my opinion, especially applicable; and past experience bears witness that my opinion is sound. The 1896 automobile referred to was stated to be a spring delivery wagon and it never made over fifteen miles per hour, for the reason that it was not built for high speed. E. A. R. refers to a French builder, who made a test between pneumatic and steel tires on a macadam road, and found that the car was shaken to pieces when used with steel tires Certainly that was not the fault of the steel tires, but of the rough road and the car's springs. My 1896 wagon has been run on very rough macadam roads, and has never yet had a bolt shaken out of it, because it is fitted with four ample elliptic springs, one at each corner of the body, and the driving axle is free to vibrate without any connection with the body or the engine, except through the springs, the chain-tightener and the single drive-chain. Nor has the axle or any part of the running gear ever broken because of rough roads or the absence of pneumatic tires.

As intimated in my former letter, the pneumatic tire was primarily designed for use on bicycles, for the purpose of enabling the rider to exert his very limited power to better advantage, thereby increasing the speed of such machines; and when the automobile came into use, manufacturers fitted pneumatic tires to it, thinking, very properly, that if such tires increased the speed of bicycles, they would also increase the speed of the automobile, and such was the fact in regard to the speed of machines upon rough roads. But it is certain that a racing machine of, say, 80-hp., fitted with steel tires and running upon a smooth track would make greater speed than it would if fitted with pneumatics, as the latter have very thick walls and absorb much power of the engine in forcing them over obstacles on the road.

Then why not use steel tires upon racing machines, to attain greater speed, and also avoid the possibility of accidents caused by the bursting of the tires?

I predict that in a very short time all high-powered racing machines will be fitted with steel tires, on account of their greater safety.

Nor need it be feared that the steel tire will "slip" to any great extent, as the surfaces may be roughened to prevent slipping.

Besides, slipping will only take place at the start, and that only in a very small measure.

After the car gets under headway, all slipping will cease, just as in locomotive engines.

I suggest that manufacturers of racing machines study the action of locomotive drive-wheels upon the rails.

If pneumatics will increase the speed of racing machines on a smooth track, why not apply them to the drive-wheels of locomotives? It would simply be absurd to do so. JOHN C. HIGDON, M.E.

*St. Louis, Dec. 3, 1903.*

## Anti Stone-Throwing Petition.

*Editor* THE AUTOMOBILE:

Your article on page 582 of the December 5th issue, entitled "Would Make Stone Throwing a Felony," has been read with much interest, and although to-day is only the 8th, you would be surprised to see the communications that have already come in to me approving of the petition idea, and asking that copies of such a petition be sent in quantities to different parts in the State. Apparently, the sufferers from this annoyance are many, and concerted action on the part of motorists throughout the country would, no doubt, result eventually in putting a stop to it.

The injury to William A. Graff, when a boy shot him in the head with a twenty-two caliber rifle while he was making the automobile run from Pittsburg to Butler, Pa., recently, is only an instance of the degree which this rowdyism can reach.

As one who knows from actual experience just how much this annoyance detracts from the pleasure of motoring, I shall do all in my power to see that a strong stand is taken against it, and to that end shall prepare and circulate the petition outlined in your article.

HORACE BURNS,

*Cleveland, Dec. 8.*

Horace Hobson was one of the original purchasers of the first automobile that was ever in this city, and he has just purchased another one. This one is a very pretty one and it is full of candy. It is made of basket material, and there is a great resemblance to the larger automobiles. It is one of the new Christmas novelties.—*Ft. Scott (Kan.) Republican.*

# New York Street Fatalities.

## A Revision of Current Statistics Usually Quoted Against Automobilists.

That automobiles are not so "bad as they're painted" is surprisingly well shown by a statement of the fatalities due to street accidents in New York City during 1902, as made public a few days ago by the metropolitan police department. Doubtless it is the association of a particular shade of the paint in the popular mind with less desirable things that has given rise to the opprobrious pseudonym of "red devil" in the public prints and the widespread outcry against the exaggerated dangers of permitting mechanical vehicles to use the streets at the same speed as horse-drawn vehicles and street cars.

Certainly nobody denies that the hazards of pedestrianism in the streets of all our cities in the North are too great by far, as one of the many undesirable results of our strenuous efforts to "get there," and that means looking to their reduction are imperatively required if we would diminish the daily sacrifice of life and limb. The tribute of one life a day through street accidents to the cause of the god Hustle, whom, from early youth to middle age, we are constantly admonished to worship, is sufficiently heavy to justify the public demand for remedial action. But the frequent singling out of automobiles as the most dangerous of all the vehicles using the streets, and the bitter animosity toward motorists reflected in the newspapers and undoubtedly intentionally engendered by some of the more rabid dailies, are entirely unjustified in the light of the figures made public by Police Commissioner Greene.

The number of deaths reported by the coroner in New York City during 1902, due to the different classes of vehicular traffic are given as follows:

| | |
|---|---|
| Street railways, not including steam or elevated roads nor collisions with elevated pillars | 172 |
| Trucks, wagons and other horse-drawn vehicles, not including runaways | 146 |
| Automobiles | 9 |
| Runaways | 7 |
| Bicycles | 2 |
| Not specified by the coroner | 29 |
| Total | 365 |

This statement is issued at this time by Commissioner Greene for the purpose of controverting the exaggerated statement frequently made of late that the number of street fatalities for the year exceed 500. In the face of the figures the furor that has raged against the automobile appears wholly unwarranted and foolish since in the twelve months during which "motorphobia" raged most virulently, not more than one in thirty-six of the street fatalities in New York City was caused by automobiles. Seventeen times as many persons lost their lives by being knocked down and run over by horse-drawn vehicles as by automobiles, while runaway horses alone killed only two less than were fatally injured by the mechanical vehicles. This clearly shows the deadly proclivity of the brute motor to take alarm and get beyond control of its driver. In another decade we shall look back and wonder how the human race could tolerate the employment of such an uncertain and dangerous tractive but intractable power. This new light on the much-discussed subject of traffic dangers shows how ludicrous and utterly untenable is the position taken by a member of the New York judiciary who, more than a year ago, placed himself in the astounding attitude of virtually advising men who use the streets a-foot to carry fire arms and shoot any operator of a motor car who seemed in danger of running them down, thereby taking the law into their own hands and perhaps committing a murder for which the death penalty could be imposed. The harm that this suggestion has done may prove inestimable, as the idea has spread to many sections of the country and a number of cases have occurred in New York State, Wisconsin and elsewhere in which automobilists have been threatened with shotguns in the hands of farmers apprehensive that their horses might take fright at the passing of the motor car. Last summer an English judge was widely reported to have recommended the same illegal action, while within a fortnight Dr. Parkhurst, a minister of the gospel, is quoted by a Metropolitan "yellow journal," in a sensational half-page attack upon the automobile, as saying, "If I could be Czar of New York for thirty days I would kill the first automobilist caught exceeding legal speed in the streets of the city."—a rather immoderate statement coming from a member of the profession which preaches brotherly love and observation of the laws of the land.

While the figures show that the street cars killed more people than all other forms of street traffic, and therefore, justify the complaint of their deadliness, it may be held that their case is mitigated by the public necessity for rapid transit. But the same excuse cannot apply to horse-drawn vehicles.

Analysis of the record shows that automobiles are little more dangerous than horse-drawn vehicles in proportion to the comparative number of each class used. Assuming that in the twenty-nine cases in which the cause of death is not specified the same proportion obtains as in the classified cases, twelve of the twenty-nine must be added to the other 153 deaths caused by trucks, wagons, carriages and runaways, making a total of 165 fatalities directly caused by horses. Dividing this sum by the nine deaths attributed to automobiles, it appears that the proportion is one in eighteen. There are between 18,000 and 20,000 licensed wagons and cabs in the city and an estimated total of 50,000 private trucks, delivery wagons and pleasure vehicles, making a mean total of 69,000. There are known to be not less than 3,200 registered automobiles owned in New York City, although the estimate has commonly been 5,000. Dividing the 69,000 by 3,200 gives a quotient of 21 1-2. Thus, there are 21 1-2 times as many horse-drawn vehicles as automobiles, and they cause 18 times as many fatalities.

Unfortunately, the police department has not compiled the figures relating to the relative numbers of persons injured seriously but not fatally by the different classes of vehicles. It has, however, furnished to THE AUTOMOBILE a careful record of the total number of arrests made for excessive speed and the disposition made of the cases, but no attempt was made to classify these—a work that would entail considerable time and labor, but which would produce results of considerable interest as proving whether or not the user of the automobile is unduly persecuted by the police. Following is the statement:

Arrests made for excessive speed in Manhattan Borough above 14th Street, and in all of the Bronx, from May 1 to November 13, 1903, and disposition of the cases:

| | |
|---|---|
| Total arrests, not including those for infraction of other street traffic regulations | 240 |
| Discharged by city magistrates | 66 |
| Held for trial in special sessions court | 118 |
| Fined by city magistrates | 49 |
| Held for further examination | 1 |
| Held by the coroner | 1 |
| Discharged by coroner | 1 |
| Paroled by coroner | 1 |
| Discharged in special sessions | 30 |
| Fined in special sessions | 54 |
| Sentence suspended | 8 |
| Cases not yet disposed of | 26 |
| Fines imposed by city magistrates (49) aggregated (Fines ranged from $1 to $10.) | $ 175 |
| Fines imposed by special sessions court (54) aggregated (Fines ranged from $10 to $50.) | $1,305 |
| Total amount all fines | $1,480 |

A line of automobiles is to be operated between Quinnesec and Iron Mountain, Mich., by the Wisconsin & Michigan Railroad for the accommodation of patrons.

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SATURDAY, DECEMBER 12, 1903.

## OUR ASSOCIATIONS.

That there is a field for associations to take care of those interests which motorists have in common, goes perhaps without saying. At least it seems to go uncontradicted. The work of such associations should be mostly to open the eyes of the world to truths which are of general interest, but which the motorist as such has discovered a little in advance of his average fellow citizen. It should also be to make a showing of a numerical strength by which to convince opponents not readily amenable to pure reasoning. Anyway, there is always a good argument in numbers of persons holding the same opinon on any given subject, especially if they are able to clothe that opinion in strong, terse words of a definite meaning; in other words, if they really know what they want.

The strong rivalry which has sprung up between the American Automobile Association, with its new lease of energy, and the American Motor League, with its new outlet for the energy of Mr. Potter that has been bottled up for the past four years, suggests the question whether we are on the right track in matters of associations.

Considering that the disinterestedness of Mr. Potter's motives in embracing the automobile faith with so much ardor, has been rather roundly impugned, it may be well to make up our minds at the outset whether association work can be expected to be done in a good efficient manner unless it is made somebody's well-paying business to organize it and to push it, and whether the work is of such magnitude and importance that those in whose charge it is entrusted should be entitled to more than a mere salary if they acquit themselves with credit. Let us grant both. In the face of common experience it then becomes difficult to believe that anyone with capacity for the work would undertake it without having the hope of some adequate financial reward clearly outlined on his mental vision; and the more hope encroaches upon certainty in his forecast of developments the larger will be the share that he will consider himself entitled to appropriate, in one form or another.

Taking these things for granted, we are confronted with several new questions. Perhaps it is necessary to have competition in association work in order to give it life and vim. Perhaps it is necessary, also, to slake the thirst for glory as well as to satiate the hunger for emoluments in order to secure strong men for the cause. Perhaps it is even necessary to pick men with a genius for clap-trap as well as for work, in order to enlist the support of motorists who crave to be deluded—unknowingly, of course—before they may become enthusiastic, or who would rather have the cause of motorism advanced in a spirit of partisanship fighting for privileges than in a spirit of justice working for recognition.

Evidently there are many points to be considered—too many for complete elucidation in any one article or speech. But in most of them the question of the compensation—its amount and its form—to the workers, enters in the first line, because it will largely determine the quality of the results. The main question seems to be: Shall the steady workers in national automobile associations be expected to take their pay or shall it be allotted to them. There is ample evidence that if the pay is to be allotted it must be generous and must bear relation to the progress to be accomplished, as otherwise greater energy and intelligence will be developed by others who see a way to exploit rather than to assist the cause.

Were it not for such misgivings as flow from these various considerations, motorists would be able to decide more readily between the A. A. A. and the A. M. L., and would flock to local clubs in much larger numbers than they do. The very fact that supremacy between two organizations of national scope—and presumably actuated solely by motives for the common good of all—has become a bone of contention, leaves a bad taste in the mouths of the rank and file of motordom. They have seen much valuable time wasted in effecting organizations and have practically seen no results that they would not be willing to waive; none that affected their welfare as motorists or the furtherance of their ideas. The prospect of having the wrangle for supremacy continued, unless the struggle may be made short and sharp, saps the enthusiasm of the public-spirited, though it may attract those seeking a chance for self-advancement.

It has been said that all prospects for an amalgamation of the two organizations have disappeared; the currents of personal animosity and ambition are too strong. Yet, this would be a consummation most devoutly to be hoped for in the interest of getting actual work done. The subject should be brought to a crisis by a definite proposal from either side. A refusal from the other side would clear the atmosphere almost as efficaciously as an acceptance. If the two organizations are to exist side by side they will both be forced by mutual competition to adopt working platforms consisting in something more interesting than the mere strife for increased membership. The time has undoubtedly passed for organizing a power without stating most definitely for what purposes the power is to be exerted. In the infancy of the automobile movement there was perhaps cause for organizing on general principles so as to be ready to meet eventual emergencies; but it seems to be generally admitted that the emergencies when they arose were not met. The legal status of the motorist is as chaotic as ever; nonsensical or superfluous speed laws have been enacted broadly without resistance that availed; local clubs have occasionally tempered the wind for the shorn motor lamb, but the national ones never; and, above all, there has been no unity of effort indicating a unity of opinion and purpose.

If anything better shall be accomplished in the future it seems first of all necessary that all glittering generalities should be eliminated from the declaration of purposes of the national associations and that platforms should be formulated stating distinctly the results that each organization aims to accomplish within the next six months or a year, and declaring with precision the means to be adopted for accomplishing them. Around platforms of this concrete character motorists may group themselves according to their preferences, and if it should so happen that the platform of the A. M. L. differed materially in purpose and means from that of the A. A. A., some reason might appear why both organizations should be supported.

At present no better form of rivalry between these bodies could be imagined than a competitive effort as to which can produce more quickly the more comprehensive and detailed explanation of the aims and means for which they ask support.

Again Professor Langley's aeroplane airship has become the laughing stock of nations by utterly collapsing and plunging Professor Manley—Prof. Langley's professional but too trusting disciple—into the cold waters of the Potomac. Shot from a catapult to give it the initial velocity that even the high priest of aeroplanes admits this type of machine requires, the professorial ship, built under secrecy from an appropriation of public money by Congress, did not even give an inkling of any capacity for flight, but forthwith shot down in a tangled mass, carrying in its meshes Prof. Manley, cautiously girdled with a life preserver, but unable to extricate himself from the wreck. A thin sheet of ice on the river was insufficient to stop the descent, but fortunately aid was at hand and no life was lost. The feat was witnessed from the banks and the scaffolding of the launching apparatus by a considerable number of sympathetic spectators including congressmen anxious to be first to announce how well the public money had been spent. Prof. Langley calmly asserted that the fault lay with the launching apparatus and that the machine itself was perfect. After his previous fiasco he journeyed to Europe. Where will he journey now? May it be proposed that he purchase an automobile, fit it with an aeroplane, and take up a temporary abode on the level desert bordering Great Salt Lake and there continue his experiments until the plane will lift the vehicle?

Both ecclesiastical and worldly circles, on the other side of the water, have been stirred of late by the fact that the new Lord Bishop of Winchester has taken to using that invention of the Adversary, an automobile, as an aid in his official visitations and tours. The churchly people in and out of the good Bishop's flock, and with them not a few besides who hold dislike of new things to be a virtue of so cardinal a quality as to atone for all deficiencies in the way of formal religious observance, have declared that it is most out of keeping with episcopal dignity for the Bishop of so important a see as that of Winchester to go cavorting about the country in a machine which, they are unkind enough to say, "snorts like a dragon and smells like the devil." The motorists, on the other hand, are elated over the new convert to their cause, and are already laying plans for the storming of other ecclesiastical citadels.

Really, however, there is little cause for excitement on either side. A few years hence no bishop in England, whose means will permit, will hesitate longer to enlist the potent aid of the automobile in the work of the Church than he now does when the conveyance is a trolley car. And this view of the matter—the most dignified and rational possible—is precisely the one taken by the eminent cleric around whom the present [illegible]not-tempest rages.

## PROPOSED ORGANIZATION OF MASSACHUSETTS CLUBS

### State Association Discussed—Reciprocal Accommodations and Tourist Privileges Suggested.

### ANOTHER MEETING ON DECEMBER 19.

BOSTON, Dec. 7.—At the invitation of President Julian A. Chase and Secretary C. H. Gillette of the American Automobile Association, representatives of a number of the automobile clubs of Massachusetts gathered at the Hotel Touraine in this city Saturday afternoon for the purpose of discussing the advisability of forming a Massachusetts division of the A. A. A. The Massachusetts Automobile Club was represented by President James T. Soutter. W. E. Eldridge, vice-president of the Boston Automobile Dealers' Association, represented that organization; President Asa Goddard and Secretary H. E. Shiland the Worcester Automobile Club, President Frank Weston the Berkshire Automobile Club, Mr. Burke the Marlboro Automobile Club and W. H. Marble the Brockton club.

Assurances of sympathy with the movement were received from L. H. Greenwood of the Fitchburg Automobile Club, the North Shore Automobile Club, and organizations in Salem, Lowell, Springfield, New Bedford and Warren.

President Chase addressed those in attendance, describing the work that the association has done and is now doing. One of its objects, he said, is to bring about a closer union between all parties interested in automobiles. Secretary Gillette outlined the general character of the proposed State association. He urged that the clubs create a State association and elect a president, vice-president and secretary-treasurer; that this association work for the interests of the automobilists, relying on the national organization for aid when necessary. The membership fee and annual dues would be divided equally between the national and the State organizations, so that the latter would be provided with funds to promote good roads, and to circulate information which would react in the prevention of unfavorable legislation, the securing of desirable laws, and would tend to increase the membership. Another good feature would be the establishment of a sort of reciprocity between clubs in offering accommodations and privileges to tourists.

The members of the different clubs present seemed to be favorably impressed with the plan as expounded to them, but none wished to commit himself until he had reported to his club and secured authority from it. Each club is to receive a draft of the proposed constitution of the State organization. When the clubs have acted their representatives will gather again to organize the Massachusetts automobile association. A meeting for this purpose is set at the Hotel Touraine for December 19. After the meeting President Chase and Secretary Gillette returned to New York.

## AUTOMOBILE CLUB OF AUGUSTA, GA., PERMANENTLY ORGANIZED.

Permanent organization of the Automobile Club of Augusta, Georgia, was effected recently at an enthusiastic and well-attended meeting held in the Albion Hotel. Constitution and by-laws were adopted and officers for the first term elected as follows: president, Dr. W. C. Lyle; 1st vice-president, Geo. R. Lombard; 2nd vice-president, D. F. Jacks; secretary-treasurer, William Martin. Committees were appointed on membership, exhibitions, tours and runs, laws and ordinances, good roads, and house.

The constitution conforms with the requirements of the American Automobile Association, which the Augusta club will join.

The committee on good roads will at once petition the commissioner of roads, who, together with the Mayor and the Commissioners of Public Works of Augusta, was elected ex-officio and honorary members of the club, to gravel a mile of roadway which forms a gap in a twelve-mile circuit of good roads near the city.

The law and ordinance committee will also take up with the city the enforcement of the ordinance now existing that prohibits the throwing of broken glass into the streets of the city, and will also take up with the commissioner of public works the matter of improving the street crossings.

Other matters on the program are the establishment of clubrooms and a club run to Waynesboro and return.

## PHILADELPHIA CLUB RUN IN SNOW FOR THE BRAZIER CUP.

PHILADELPHIA, Dec. 7.—The Automobile Club of Philadelphia made last Saturday a red-letter day by a "cross-country run," followed by a smoker and together they made a day of activity and pleasure such as the club has not experienced in a long while. This exhibition of activity has long been needed, and even the "drifters" were forced to acknowledge that it was a good thing, and the probability of a more active existence for the club in the future was freely discussed.

Phoenixville, twenty-seven miles away, was the objective point of the run, which, unlike must cross-country runs, was confined to the roads between the two points. As one of the contestants put it, "There are too many rail fences in the way to make a real cross-country run of it." Six inches of snow and slush proved somewhat of a detriment, for of the numerous entries only six showed up at the starting point, the Hotel Walton, at 9 a. m. They were A. D. Chadbourne (Winton), Charles J. Swain (Winton), Joseph L. Knight (Peerless), S. De B. Keim (Locomobile), Howard Long-

stretch (Searchmont), and W. M. Swain (Winton).

Mr. Knight was the first away on the dot of 9, the others following at five minute intervals. Chadbourne, last starter, was the first to arrive at the Columbia Hotel, at 11:18; time, 1 hour 53 minutes.

After discussing a good dinner—"neutralized," for all hands took their time—the return journey began, the first to report at the starting point being Knight in his big Peerless in a trifle more than two hours.

It was a veritable sleigh-ride—too much so for some of the participants, who were compelled to wind their rear tires with ropes to get traction on the long, slippery hills. Owing to the unique conditions which governed the contest, H. Bartol Brazier, who promoted the run and hung up the prize—a cup—could not announce the winner until the reports of the checkers along the route had been received.

The judges at Phoenixville were Joseph Pickering, J. Abbott Thurlow and John B. Lavens, while those who officiated at the finish were W. D. Gash, C. G. Grosholz and Mr. Brazier.

In the evening almost seventy-five members of the club gathered at the Manufacturers' Club to smoke and talk over the afternoon's experience. A vaudeville performance and a lunch added to the enjoyment. A similar event will hereafter be a yearly fixture.

### Denverites Want Less Sprinkling.

The Colorado Automobile Club, through President Brunton and Secretary Bergtold, recently presented a petition to the mayor and city council requesting that the sprinkling of the asphalted streets in Denver be discontinued and the money expended instead in keeping the streets clean. The position taken by the club is that if the asphalt streets are thoroughly cleaned there will be no dust on them, and they will not need sprinkling, while if sprinkled when dirty they not only cause mud to be splattered on pedestrians and thrown up by wheels upon occupants of the vehicles, but also cause dangerous skidding of automobiles. The council however, is apathetic in the matter.

### Newark Club for Protection.

The primary object of the New Jersey Automobile and Motor Club of Newark, is slated in a circular letter which has been addressed by Secretary William A. Stimpson to 4,000 Jersey motorists, to "lawfully defend its members against persecution and thereby establish their rights upon the highways." The letter cites a case in which suit in the sum of $1,500 was brought against a motorist of the State, who, while proceeding in a lawful manner along the public highway, is accused of having frightened an approaching horse. Such a suit compels a personal defence at considerable expense, so the club points out that all automobilists need the protection afforded by unity and cannot get full rights on the roads with economy single-handed and unsupported by organization. The letter concludes with an invitation to automobilists to put their shoulders to the wheel.

The club is now permanently organized and holds its meetings in the rooms of the Board of Trade, Newark. As soon as sufficient encouragement has been given by answers to the circular letters, a meeting of members will be called for the purpose of discussing plans and the subject of permanent quarters.

### Notes of the Clubs.

Plans now under consideration for the organization of an automobile club in Wichita, Kan., will probably be carried into effect during December.

The six owners of automobiles in Oneida, N. Y., together with several others who expect to have cars next year, contemplate organizing the Oneida Automobile Club.

Owners of motor cars in Chattanooga, Tenn., of whom there are about fifteen now with ten others who have ordered 1904 cars for early delivery, are planning the organization of a local club.

Fourteen motorists of Dallas, Texas, held a meeting last month for the preliminary formation of a club and appointed a committee to formulate plans for permanent organization and to urge all local owners of motor cars to become charter members.

A movement is on foot to organize an automobile club in Dallas, Texas. As a preliminary meeting a committee was named to look into the details of the organization, including George A. Titterington, Henry Garrett, George A. Collins and A. Templeton.

The annual club banquet will take place on January 23, the last night of the Madison Square Garden automobile show. Capt. Homer Hedge, the new house committee chairman, is now at work on the details preliminary to the banquet, and a most enjoyable affair is promised.

A movement has been started to organize an automobile club in York, Pa., with the objects of holding race meets once or twice a year, endurance contests, and aiding the movement for improved roads. S. C. Brown, Charles Welsh and Thomas Myers are among the enthusiasts interested.

The first complete committee to be announced by President Scarritt, of the Automobile Club of America, is that on good roads. The members are, in addition to Mr. Scarritt, Col. Albert A. Pope, who has been interested in the improvement of State and National roads for many years, and M. D. Chapman, an expert on highway construction.

The Automobile Club of Indiana, at Indianapolis, is investigating the possibilities of getting out a correct road map and directory of hotels and garages for the State of Indiana. Tours made by several members of the club have proved that existing maps are not authentic and give misleading information.

The club organized recently as the Crescent Automobile Club, of Trenton, N. J., has changed its name to The Trenton Motor Touring and Racing Club. Officers were elected as follows at the November meeting: president, J. W. Carll; vice-president, Charles Haven; secretary-treasurer, Warren C. Eccles.

Plans for the good roads campaign which the American Motor League and the Automobile Club of America are preparing to inaugurate this winter were to be outlined and explained before the executive committee of the National Association of Automobile Manufacturers last Thursday by I. B. Potter and A. B. Shattuck, respectively, representing the two organizations.

A Pittsburg consulate of the American Motor League has been organized with officers as follows: senior consul, E. E. Keller; junior consul, G. Harton Singer; secretary-treasurer, John A. Hawkins; governors, Thomas R. Hartley, C. P. Matheson and M. F. Leslie, together with the officers elected who are exofficio members of the board. The consulate will take up the work of erecting sign boards and danger signals, road improvement, tour books and forwarding other objects of the American Motor League in Western Pennsylvania.

The Board of Governors of the American Automobile Association has nominated Harlan W. Whipple of East Orange, N. J., for the presidency of the association, and Mr. Whipple and C. H. Gillette, the secretary, have been named as a committee for the selection of other officers. The annual meeting of the association will be held in Chicago during the automobile show in February.

The annual meeting of the Long Island Automobile Club was held in the club rooms in Brooklyn, last Wednesday evening, and the following officers were elected: president, Frank G. Webb; vice-president, Albert Wilmarth; secretary, H. P. Hanaford; treasurer, Edwin Melvin. J. A. Molledhauer, A. R. Pardington, Laurence Abraham, L. R. Adams, Frank G. Webb, H. P. Hanaford and Edwin Melvin were elected governors.

The meeting was followed by a banquet and entertainment.

Seventy-five automobiles were registered in Allentown, Pa., up to November 1.

## CALIFORNIANS WANT AUTOMOBILE LAWS MADE UNIFORM.

SAN FRANCISCO, Dec. 3.—A committee from the Automobile Club of Alameda County and representatives of the Merchants' Exchange of Oakland held a meeting a few days ago to discuss an ordinance for regulating the speed of automobiles in Alameda County. As a result of the conference an ordinance was drafted and will be submitted to the board of supervisors. Dr. N. H. Chamberlain, president of the Automobile Club, said that a State law regulating the use of automobiles ought to be passed. Under the system whereby each county enacts its own regulations, an automobilist making a tour of California in his motor-car would have to carry fifty-two license cards. He suggested that every machine carry an identification card and that the regulation of speed be made a matter of State legislation. When the proposed ordinance becomes law copies of it will be sent to the board of supervisors of other counties. The proposed ordinance provides that twenty miles an hour shall be the limit of speed in Alameda County.

The board of supervisors of Sonoma county has adopted an ordinance prohibiting automobiles from running at a higher speed than twenty miles an hour on the thoroughfares. This ordinance is similar to the one in force in Santa Clara County and to that proposed for adoption in Alameda County.

The Alameda County ordinance provides that the driver of an approaching automobile, on the signal of any person riding or driving a horse, must reduce the speed of his machine, and, if he receives a second signal, must bring it to a full stop. In passing wagons on mountain roads, the automobile must take the outside and remain still until the wagons or horsemen have passed. Violation of this provision will subject the automobilist to a fine of $100.

The electric railway recently built in Oakland passes through a tunnel at one point and the committee of the Merchants' Exchange of Oakland desired that automobiles should be barred altogether from the tunnel, but the representatives of the Automobile Club would not consent to this, threatening to refer the matter to the courts. The Automobile Club, however, has had signs requesting automobilists to avoid traveling through the tunnel posted at the approaches.

## SPEED LAWS TURNED AGAINST DRIVERS OF HORSES IN BOSTON.

BOSTON, Dec. 7.—Now that the automobilists hereabouts have ceased to give the police any trouble to speak of on account of speeding, the officers of the law have turned their attention to horsemen, and have shown, during the past week, that it is their intention to treat equally all drivers of vehicles, either horseless or horse-drawn. On Thursday of last week eight men employed by sales stables in the northern end of the city as drivers were summoned into court to answer to charges of fast driving. They pleaded not guilty and the cases were continued. This action on the part of the police is the result of numerous complaints made by people who are accustomed to use the streets leading to the North Station. It is on these streets that most of the sales stables are located, and it is alleged that the reckless driving there made the streets dangerous to travel. In preparing for the crusade against the drivers the police commission equipped officers with stop watches and stationed them at the ends of measured sections of streets. The speed limit is seven miles an hour and, according to one of the policemen, horses were driven at a rate of seventeen miles an hour. He said that a rate of twelve miles an hour was common. The horsemen have employed counsel and the contest promises to be interesting, especially to the drivers of automobiles who hitherto have had to bear the brunt of the agitation against fast going on the highways.

### American and Foreign Automobile Fixtures for the Winter.

1903
Dec. 10-25.—Sixth Annual International Exposition of Automobiles and Cycles in Paris. Grand Palais. Automobile Club of France.
Dec. 31.—Closure of Entries for 1904 Gordon-Bennett Race.
1904.
Jan. 16-23.—Fourth Annual Automobile Show, New York. Madison Square Garden. National Association of Automobile Manufacturers, Madison Square Garden Company and Automobile Club of America.
Jan. 16-30.—Automobile Show. Herald Square Exhibition Hall, New York. Alfred Chasseaud, Manager.
Jan. 23-Feb. 4.—International Automobile Exhibition at Brussels.
Jan. 26-30.—Philadelphia Automobile Show.
Jan. 25-Feb. 6.—Racing Tournament at Daytona, Fla. Ormond Daytona Sea Beach. Florida East Coast Automobile Association.
Feb. 6-13.—Fourth Annual Automobile Exhibition, Chicago. Coliseum Building. National Association of Automobile Manufacturers and Chicago Automobile Club.
Feb. 8-20.—National Motor Boat Exposition. Herald Square Exhibition Hall, New York. Dr. Robert Taylor, Director.
Feb. 12-24.—Second Annual Automobile Exhibition. Crystal Palace, London. Society of Motor Manufacturers and Traders.
Feb. 15-20.—Third Annual Exhibition at Detroit. Detroit Light Guard Armory. Tri-State Automobile and Sporting Goods Association.
Feb. 29-Mar. 5.—Cleveland Automobile Show.
Mar. 6-12.—Second Annual Buffalo Automobile Show. Convention Hall. Automobile Dealers' Association of Buffalo.
Mar. 14-19.—Third Annual Automobile Show, Boston. Symphony Hall. Boston Automobile Dealers' Association.
Mar. 17.—Start of Touring Trials, Paris to Rome, organized by La France Automobile.
Mar. 19-26.—Motor Car Exhibition, London. Agricultural Hall. Cord ngly & Co.
Mar. 20.—Opening of Automobile Festival at Nice, France.
Mar. 21-26.—Fourth Annual Washington Automobile Show. Washington Light Infantry Armory. Washington Automobile Dealers' Association.

### A Joke All Around.

MONTAGUE, Mass., Nov. 30.—A virulent case of motorphobia in this town during the past week has furnished no little amusement to its citizens. It was first brought to public attention by the appearance a week ago of printed notices which were circulatied and conspicuously posted, reading as follows:—

"To Dr. Cooke and all others who ride in automobiles: As you have no business on the Meadow road and never will have as long as you ride in an automobile, we would thank you to keep off the Meadow road."

This remarkable document bore the signatures of Charles and Carolina Maynard, L. F., Charles T. and E. B. Nims and A. D. Ball, Louis and Rosina Koch. It was known that Mr. Maynard was the author and poster of the notices and had obtained the signatures. The signers are all residents along the "Meadow road," which, by the way, is a public highway.

Dr. C. A. Cooke, to whom the notice is principally addressed, is a local physician and owns and operates a Grout car in his profession—so far as can be learned, the only one in town. He has the reputation among townspeople of being a careful operator, fully observant of the rights of others. The doctor preserved his equanimity under the circumstances and instead of rushing to arms or into print, treated the matter as a joke and smiled good humoredly.

The wisdom of his course has been apparent. Within a few days Dr. Cooke received the following statement:

"To Dr. Cooke, or any one else who rides in automobiles: The signers to the highly amusing document which is being circulated would say that with the exception of the originators of the paper, our names were attached simply to please and only after he had repeatedly said that no use should be made of it until he had obtained all names in the neighborhood, and knowing there were some he would never be able to obtain we felt quite safe. So far as we are actually concerned, even if we owned the public highway, we would have no objections to the passing of automobiles, rather enjoying seeing them whiz by.

"We signed. We'll take our medicine. In the meantime anything in the way of information or literature concerning automobiles will be pleasantly received. If interested parties would kindly present us with a handsome machine, we will ride up and down these same meadow roads, even though we know we may meet a man in a wagon with a shotgun loaded with blank cartridges."

## HORSEMEN INTERESTED IN FIRST AUTO RACES IN HOUSTON, TEXAS.

The first automobile races ever run in Houston, Texas, were pulled off November 24 and were attended by a large number of people, among whom were many horsemen who showed great interest and several of whom acted as officials. The meet was arranged by a committee consisting of G. W. Hawkins, local agent for the Olds, and M. J. Lossing and S. H. Hart. The officials were: Judges, J. S. Bowsher, Dr. J. R. Stuart and Dr. E. J. Hamilton; Timers, F. H. Stewart, W. R. Howard; Marshal and Announcer, A. L. Toles; Starter, Dr. King Cutler.

The first event was a five-mile race for light machines stripped. Entries, Cadillac, entered by Parlin & Orendorf, Dallas, driven by Mr. Hurlburt; Oldsmobile, G. W. Hawkins, driven by A. J. Saliers; Cleveland Roadster, driven by C. W. Fletcher, and Oldsmobile, by Eugene Ligon. It was won by the Cadillac; time, 9:10 1-2. The Oldsmobile, belonging to G. W. Hawkins and driven by A. J. Saliers, ran over a bird dog which got in the way on the first lap which threw the machine out of its course and in striking an embankment bent the axle, which put it out of the race. Second place was won by C. W. Fletcher.

The second event was a five-mile race for stock machines weighing 1,500 pounds and with bodies on. Entries were the Cadillac, Richard-Brazier and two Oldsmobiles. The Richard-Brazier and Cadillac were allowed to run stripped. The race was won by the Cadillac in 9:21. The stock Oldsmobile with body on, driven by Louis Birdsong, ran second in 9:36.

The third event, a five-mile free-for-all, was won by J. D. Anderson with his Richard-Brazier; time, 9:34; second place by Louis Birdsong, Oldsmobile.

The fourth event was three miles for steamers only. First place was won by Ed. Connor in a Mobile, and second by C Erickson in a Conrad.

The fifth event was a pursuit race, which was won by J. D. Anderson with the Richard-Brazier; second, L. Birdsong, Oldsmobile. The Cadillac was forced to drop out of the third and fifth races to make adjustments.

### Coroner Finds Auto Useful.

CINCINNATI, O., Dec. 8.—The automobile has received official recognition in this city at the hands of the coroner, Dr. Walter B. Weaver. He uses his machine almost exclusively in his trips for miles out into the country to investigate the cases which are called to his attention. His auto has been called into play in the investigation of many brutal crimes and bloody tragedy.

"By the use of the automobile," says Dr. Weaver, "I am enabled to reach a scene with but little loss of time and to investigate cases within a few minutes after they are reported to me. I consider the auto an invaluable aid in coronial investigation.

"Delays often enable persons to secrete evidence in cases where a man who reaches the spot promptly, while the tragedy is still fresh and vivid on the minds of every one concerned. may find out many an essential fact that otherwise would be lost sight of. I shall use my machines at all times, both winter and summer."

Emmet P. Gray has withdrawn as president and general manager of the Cincinnati Automobile Company and Sidney Crain, previously vice-president, has been chosen to succeed him. Walter Crain has been elected treasurer and Dr. A. A. Kumler secretary. W. F. Duckwall was formerly secretary and treasurer.

Mr. Gray steps out of this company to engage in the manufacture of automobile parts and is organizing a new company for this purpose.

### Will Tour From Newark to Jacksonville.

Louis J. Wurth of Newark, N. J., will start overland to Jacksonville, Florida, next month in his Autocar. He will be accompanied by Mrs. Wurth and one or two friends. The distance is about 1,500 miles and the party hopes to make it in twenty days' actual driving. The route will be through Trenton, Philadelphia and Baltimore to Washington, where a short stop will be made. Then the party will leave over the smooth Virginia roads for Richmond, remaining in that city for a day or two. Charleston, S. C., and Savannah, Ga., will also be visited. From Savannah the course will be southwest to Waycross Across St. Mary's River the sandy roads of Florida will be encountered and progress will be slow. The return trip will be over a different route. Mr. Wurth is having his car overhauled and made ready for the long trip.

### Uppercue to Fight Eagle Rock Protest.

NEWARK, Dec. 8.—The Stevens-Duryea chassis in which I. M. Uppercue, of the Motor Car Company of New Jersey, made the second best time of 1:37 in the Eagle Rock hill-climbing contest at West Orange on Thanksgiving Day, has two 7-horsepower motors instead of one, the equipment of the stock Stevens-Duryea, and entered the contest stripped of body and every unnecessary pound of weight. The frame was lengthened two inches to make room for the extra motor.

Following the conclusion of the contest, a protest against this car was entered upon the ground that it was a special machine and not properly classed according to price. "The car complied with all the rules of the contest," says Mr. Uppercue, regarding the protest. "I intend to fight the protest and don't think it will stand. The machine I used sells at the price of the regular car, $1,300. The only charge against it was that it was fourteen horsepower instead of seven. Mr. Vanderbilt's time was only one-fourth of a second better than mine. There is a vast difference between the cars, the Mors being a French car costing $9,000 and having about fifty horsepower, while the Stevens-Duryea is an American-made car costing $1,300, and is only fourteen horsepower."

Mr. Uppercue will enter this machine in the Ormond races in Florida this winter.

Final action of Referee Miles upon the protest entered against the award of first prize in the $1,000 to $1,800 class in the Eagle Rock hill-climbing contest to the Stevens-Duryea entered by the Motor Car Company of New Jersey is still pending, awaiting the receipt of a letter from the Motor Car Company. The award was protested upon the ground that the machine was not a stock car of seven horses power retailing at $1,200, as represented in the entry blank; but a special chassis equipped with two 7-horsepower engines and not regularly catalogued. While the rules did not require that the competing machines should be catalogued stock cars, it is held that only one of these special cars was ever built by the Stevens-Duryea people, that they do not contemplate building any more and that the retail price is not $1,200.

The machine, which was driven by I. M. Uppercue, was entered in two other events, but was promptly disqualified in the free-for-all event for cars under touring conditions because it was not fitted with a body.

Should the protest be sustained, as appears likely, first prize in the class for $1,000 to $1,800 cars will go to the Franklin car entered by the American Automobile Storage Company, which made the ascent in 3:21 1-2.

### Exit Horse—Enter Automobile Company.

The old horse market on East Fifth Street, Cincinnati, which has been for seventy years a feature noteworthy in the city's industrial life and which earned for itself in past years a fame extending throughout the larger cities of the East and West, especially in the days before the electric car superseded the old horse car on street railroads, last week became a thing of the past. The automobile completed the work already begun by the trolley car and the last of the old horse market stables, that of Frank Fox, has been leased to the Cincinnati Automobile Company.

Where once horses were trotted up and down in the streets to show off their good points to the throngs of prospective bidders, the whirr of the automobile is now heard. In bygone days a dozen immense stables were arranged alongside each other and the spirit of rivalry was most intense. Buyers came from all over the country.

Now this is all over; but two of the stables still retain their existence and these have been moved about five miles out into the suburbs of the city.

### Winter Use of Autos in Boston.

BOSTON, Dec. 7.—Automobiling in and about Boston is far more lively now than it has ever been before in the month of December. Owners are taking their cars out very generally and are making their usual trips, while some journeys of considerable length were undertaken last week when there were three or four inches of snow on the ground. One party started from Boston to New Haven and others have been on runs of fifty miles or so, equipping their tires with ropes to prevent slipping and loading the tonneaus with fur robes. Most of the riding, however, is by those who have been using their cars to go between their homes and places of business. Men with estates twelve or fifteen miles from the city have found that they can run into town with their touring cars as well now as in the summer, and they are prolonging their stay in the country for that reason.

### Automobile Mail Delivery in Nashville.

A. W. Wills, postmaster at Nashville, Tenn., is very anxious to secure an automobile service for carrying the mails to and from the postoffice, and the railway station and street car lines, believing that much time could be saved over the present horse and wagon service. The Automobile Company of Nashville has expressed its intention to enter a bid for the contract, provided the postal department will grant an extension of time to January 1 before closing the bids. Mayor Wills is now in Washington trying to secure the required extension

The contract covers a period of four years, and the Automobile Company does not care to enter a bid without first making very careful estimates of the cost of the proposed service.

### The Ormond-Daytona Races.

The Florida East Coast Hotel Company has published a very pretty little automobile love story called "The Auto Race at Ormond—a Story of Two Prizes." The advertising and the story are so well blended and the illustrations so attractive that the little book can be read without pain. It can be obtained through Anderson & Price, 221 Fifth Avenue, New York, until January 1.

Lee Hardy purchased D. M. Lewis' automobile but didn't seem to be satisfied with it, so on Monday he fired up an old threshing machine engine and went riding about town and finally pulled for the country. The last we heard of him he was running a shredding machine. The Lord only knows what he'll be in next.—Kinsley, Kansas, *Mercury*.

## NO MORE SELDEN PATENT SUITS FOR AWHILE.

**Licensed Manufacturers to Await Outcome of Pending Cases; May Proceed Against Infringers of Other Patents.**

**CONSIDERING CASE OF UNLICENSED IMPORTERS.**

A meeting of the Association of Licensed Automobile Manufacturers was held at the offices of the association in New York last Wednesday, representatives of twenty-two members being present. Several important matters were discussed and a decision was reached to take aggressive action against non-licensed manufacturers for alleged infringement of a number of the 400 detail patents owned by members of the association. It was further decided to bring no additional suits for infringement of the Selden patent until those now pending are decided, because such suits cover the ground thoroughly, one being against a manufacturer, a second against an agent and a third against an owner, and a decision in each case will apply to similar cases.

No action has so far been taken against an unlicensed importer, and the advisability of bringing such proceedings was discussed at some length at the meeting, and it was decided to take the matter in hand at an early date.

Several applications for membership were laid over. It was decided to hold the next meeting of the association during the week of the New York automobile show in January.

## BOSTON AGENCIES SEIZE OPPORTUNITY TO IMPROVE THEIR QUARTERS.

BOSTON, Dec. 7.—The interim between the close of the selling season of 1903 and the opening of the season of 1904 with the New York show is being taken utilized by many local retail automobile establishments to make changes and alterations that have been found necessary or desirable. At the Park Square Automobile Station, which harbors a number of agencies and does a large garage business, two important changes are in progress. The Videx Automobile Company, which has had its office there for some time, has decided to move to Stoneham, and Grout Brothers have also moved out. In place of these concerns Moore & Smith, which has succeeded H. B. Shattuck & Son as local agents for the Autocar, have installed Fred C. Graves, formerly with Shattuck, in an office in the station. Besides an office and showroom this concern will have a large space in the same building for a repair shop. The other new arrival at the station is F. C. Dole, who it is understood will do a brokerage business as well as handle a line of cars.

Grout Brothers have engaged Frank Durban, formerly with the Stanley works, and are fitting up a commodious showroom at 151-153 Columbus Avenue. The concern, whose factory is located in Orange, Mass., has recently reorganized and incorporated under the laws of Massachusetts. The officers are: president, C. B. Grout; vice-president and manager, F. E. Grout; treasurer, F. L. Grout, and secretary, K. A. Grout. The company is to turn out a new tonneau steamer and also a gasoline 20-horsepower car. The new salesroom will have accommodations for about ten cars and will be fitted up in the best possible manner.

Recently the new branch agency of the Oldsmobile, in the store at 239 Columbus Avenue formerly occupied by H. B. Shattuck & Son, has been put in excellent shape under the direction of Manager Benjamin Smith. The company is showing a full line of pleasure cars and a delivery wagon. Changes are also being made in the Oldsmobile repair and storage department of the store on Stanhope street.

At the Winton garage, at the corner of Berkeley and Stanhope Streets, Manager Harry Fosdick is having a steam heating plant installed to keep the garage at a uniform temperature all winter and prevent the cars being damaged by standing in a cold room. About sixty Wintons are regularly kept there and most of them are in constant use even at this late date. A complete machine shop is also being fitted up and all repairs will be made by the company.

All of the local agents are making preparations for the reception of the 1904 cars, although few have them in stock. With the exception of the Peerless, hardly any of the new models have arrived. Mr. Morrison, the Peerless agent, has one of the new 35-horsepower tonneaus and until recently has had L. P. Moors' 24-horsepower car to show. The general manager of the Peerless company was in Boston recently and it is said that the object of his visit was to decide upon a location for the new office building and garage which the company is soon to erect in Boston.

On December 1 C. S. Henshaw opened a new store at 288 Columbus Avenue where, as New England representative, he will carry a complete line of Thomas cars and motorcycles, and parts for replacements. A storage station and first-class repair shop has been established in connection with the store and a full line of sundries and supplies will be carried. The store is situated almost directly opposite the Columbus Avenue entrance of the Back Bay Railroad station, and is the only automobile store on the avenue that has asphalt pavement in front of it. The new 1904 Thomas triple-cylinder 24-horsepower car will be ready for demonstrating about January 1.

### Newark Agencies Drawing Together.

Newark automobile dealers are following the example of the New York houses and

by next season the large agencies will probably all be found together on Halsey Street south of Market. The new station of the Motor Car Company is going up at 291 and 293 Halsey Street; the Central Automobile Company is at 224 Halsey; the Autovehicle Company is considering the renting of a vacant store in the same building, and Louis J. Wurth has partly agreed to take another. Burtt & Company are a little farther down the street, while the H. J. Koehler Sporting Goods Company is on Broad Street, one block east of the group.

### Boston Show Applications Exceed Space.

The committee in charge of the automobile show of the Boston Automobile Dealers' Association to be held in Symphony Hall next March has given the use of one of its rooms to the Boston Y. M. C. A. for an exhibition of the work and drawings of the automobile class now being held by that association. The automobile school has started this season and so far has done admirable work, and it is believed that by March it will have so far advanced in its studies as to be able to make a good display.

All the space in the main hall has been alloted and later applicants for spaces will be forced to accept postions in one of the three large corridors. In the main hall will be displayed almost every well-known make of American machine with a goodly sprinkling of those manufactured abroad, including several new types never shown in Boston. Applications for space already exceed the amount at disposal. The show committee consisting of W. E. Eldridge, George H. Lowe and Harry Fosdick has decided that all delivery wagons shall be displayed in the corridors and the main hall reserved for pleasure vehicles.

### To Build $15,000 Garage in Buffalo.

BUFFALO, Dec. 7.—W. C. Jaynes, a prominent local automobile owner and dealer, has bought a fifty-foot-front site on which he will erect a handsome business block for the use of the Jaynes Automobile Company and the Jaynes Electrical Company, of which concerns he is president. The property is at 883-889 Main Street, in a section which is rapidly growing as a business center. The land extends through to the next street from Main. The price paid was $40,000.

Mr. Jaynes intends to erect a two-story brick building with terra-cotta front. The lower floor will be used for a showroom, garage, women's reception room, and office. A feature of the establishment will be a smoking room, where automobilists will be welcome to rest themselves and read the newspapers and periodicals. On this floor also will be the repair shop. The front of the building will have two entrances and heavy plate-glass windows. The cost of the building will be about $15,000 and as soon as the contract is awarded the construction will begin. It is hoped the building will be ready for occupancy by March or April of next year.

The Jaynes Company has done a thriving business and become so popular that the erection of the new building was necessary to enable it to take care of its trade more conveniently.

## TEST OF MUIR'S STEAM STREET SWEEPER.

Provoked by the communication from Frank Briscoe of Detroit which appeared in a recent issue of this publication, relative to the steam street sweeper invented and promoted by John S. Muir of Detroit, the latter assures THE AUTOMOBILE that his machine is not an experiment but a practical street renovator fully demonstrated as a success to the satisfaction of several Detroit capitalists.

A report on the machine which appeared in the Detroit *Tribune*, November 26, was headed "Looks Like a Success," and read as follows

> The first demonstration of a new automobile sweeping machine, which is in the control of a local syndicate, was given yesterday afternoon on Cass avenue, between Amsterdam and Warren. There were present D. P. W. Commissioner Maybury, Ald. Black, Frank B. Leland, John B. Corliss, Thomas Cooper, F. B. Stevens, Frank Matherson and many others.
>
> The machine, which weighs about three tons, is run with steam power, gasoline being used for fuel. It has been constructed on the principle of a carpet sweeper, in that it takes up the dirt as it goes along, and the same motive power moves the rubber-tired wheels, the sweeper between the wheels and an elevator which runs up and down and carries the accumulation of dirt and dumps it into a receptacle in the forward part of the machine. When the receptacle is full, the front part of the machine is let down and the whole receptacle is slid out on the street over a regular track and a new receptacle is put in its place.
>
> It is claimed for the sweeper that it works with rapidity, doing the work of twenty "white wings," and that, too, with but one man on the driving seat. The average rate of speed is about five miles an hour, though it can be driven faster if necessary.
>
> The inventor is John S. Muir, who made the machine here in Detroit under directions of a syndicate consisting of John B. Corliss, Benj. and Frank Briscoe, William Livingstone, C. D. Joslyn, H. E. Spalding, F. B. Stevens, George C. Morris, Charles Puddefoot and A. I. McLeod.
>
> The machine did good work and to those present it looked like a good thing. Commissioner Maybury said he would want to see it work a while longer before he passed judgment on it and suggested to Mr. Corliss that he allow it to be used on the streets of the city a couple of weeks so that it can be thoroughly tried out. This will probably be done.
>
> There is an arrangement in front of the sweeper and under the water tank whereby the water trickles down on the dust in the street just before it is taken up.

### Endurance Run Award Protested.

Information is received as this issue goes to press that a protest is to be filed against the awarding of a gold medal to the Electric Vehicle Company for the performance of its Columbia car, driven by B. B. Holcomb, in the October Endurance Run. The protest has been prepared by Thos. B. Jeffery & Co., but had not been received up to Thursday afternoon at the headquarters of the National Association of Automobile Manufacturers, which conducted the run and made the awards. It will be remembered that the Columbia car skidded and broke a wheel just after it entered Buffalo and did not reach in the official garage till 1:30 a.m. repairs being made outside. Although the officials told Holcomb that he would be considered as having reached the garage and need not go to the trouble of having the car hauled to it, it was a technical violation of the rules.

Rambler car No. 18, driven by Arthur Gardiner, also made all centrals on time except at Buffalo, where it arrived at 1:20 a. m., but it was not awarded a gold medal.

### Recent Incorporations.

Jennings Automobile & Mfg. Co of Jersey City; to manufacture automobiles; capital stock, $500,000. Incorporators: John J. Curtis, Jr., Russell Bonnell and E. W. Ward.

Auto Shop, Paterson, N. J.; to manufacture automobiles and other vehicles; capital stock, $50,000. Incorporators:—Andrew T. Fletcher, F. Hand and W. J. Tynan.

Tuxedo Automobile Station, New York; capital stock, $5,000. Directors: S. C. Craig, Rutherford, N. J.; Julius Rehwoldt and John Westenberger, New York.

Centaur Motor Company, Buffalo, N. Y.; to deal in automobiles; capital stock, $100,000; Incorporators: Harry C. Wilcox, J. B. Eccleston, F. W. Butts, Buffalo, N. Y. Directors: Lewis Emerg, Jr., E. F. Jackson, Bradford, Pa.; J. B. Eccleston, Buffalo, N. Y.

The Auto Company of Davidson County, Tenn.; to deal in automobiles, operate an auto-bus line, a storage depot and machine shop; capital stock, $25,000. Incorporators, Frank G. Fite, W. F. Anderson, Jordan Stokes, J. W. Handley and T. M. Steger.

# News Notes and Trade Items.

The Loomis Autocar Company of Westfield, Mass., is putting out a special carbureter to work with a governor.

H. J. Lauck, 150 W. 104th Street, New York City, has been appointed local manager for the St. Louis Motor Carriage Company.

T. W. Moel, 57 Center Street, Cleveland, has opened a machine shop for repairing and reconstructing automobiles. He will also carry a line of supplies.

The Cushman Motor Company, of Lincoln, Neb., is figuring on a branch factory site in Racine, Wis., to manufacture motors for boats and automobiles.

Oscar S. Lear of Columbus, O., has sold his retail bicycle and sporting goods business and has removed his automobile establishment to the corner of Fourth and Gay Streets.

A company has been organized in Milwaukee, with Charles E. Cotta of Rockford, Ill., as vice-president, to manufacture the Cotta four-wheel wheel-drive automobile.

N. E. Brown, who has been connected with the Pierce Automobile Company of Minneapolis, during the past season, has established a repair business for himself at 423 First Avenue, North.

Frank Eveland of the Spalding & Bros. automobile agency in New York has taken passage for Europe to visit the Paris Exposition, taking with him an Autocar with which he intends to travel in England and the Continent.

H. S. Moore, who has conducted a garage at 160 Crawford Road, Cleveland, O., for the past three years, has bought the entire plant and good will of the Star Automobile Mfg. Co. and will continue the manufacture of the Star light touring car.

Owing to the lateness of the season, L. P. Mooers has decided to abandon his plan of driving the Peerless car in which he made the Cleveland-New York-Boston run back to Cleveland, and it was shipped to the Cleveland factory last week.

John C. Karel, register in probate for Milwaukee County and former member of the Wisconsin Assembly, has, together with Warren W. Hyde and R. O. Eastman of Milwaukee, filed articles of incorporation of a new automobile manufacturing company.

On the application of the Euclid-Park National Bank, one of the heaviest creditors, the affairs of the Cleveland Automobile & Supply Company were placed last week in the hands of A. M. Barnes as receiver. On Saturday the company made application for bankruptcy and the affairs were taken charge of by the United States Court.

Rural Mail Carrier C. L. Clayton, at Wellington, Kas., is contemplating the purchase of an automobile to use on his route, as it has been demonstrated to him that he can make better time with the power vehicle.

Cole & Son of Rockford, Ill., have completed a gasoline tonneau that is to be named the Rockford and is reported to be a credit to its makers and the town. The firm contemplates manufacturing others upon order.

The agency for the St. Louis cars in Los Angeles, Cal., has been transferred from N. W. Church to the Woodhull & Hulse Electric Company, which has established an automobile salesroom on Los Angeles Street, near 5th Street.

T. C. Whitcomb, formerly with the National Motor Vehicle Company of Indianapolis, has become identified with the Ohio Motor Car Company of Cleveland, agents for the Packard and Northern lines. The company will handle these lines the coming season.

The automobile show in Buffalo will be held under the auspices of the Automobile Club of Buffalo. The Dealers' Association of that city has amalgamated its interest with those of the club and the show will be managed by a committee of five selected from the two organizations.

A $60,000 automobile stable is to be erected at 413 to 417 West 27th Street, New York, for the storage of the electric delivery wagons with which Saks & Co. deliver all their merchandise to customers. The stable is to be leased for a long term of years by the big drygoods firm.

A mail wagon collided with a high-powered gasoline automobile at Broadway and Fortieth Street, N. Y., one day last week, but neither vehicle was badly injured. The automobile was consigned to President Marroquin of Colombia, and was being taken to the Red D Line pier, for shipment to Bogota, at the time of the accident.

The Hartford Rubber Works Company of Hartford, Conn., are sending out a very handsome show card consisting of two very pretty girls driving a motor car through a huge Dunlop tire; which makes a very striking and at the same time artistic advertisement. The original painting for this was made by H. S. Eddy of New York.

The Automobile Repair and Garage Company of Cleveland has taken the local agency for the Swinehart tires, a new Akron product especially adapted for use on trucks and electric vehicles, or for doctors, ambulances, and other classes of service where the operators cannot afford to stop to make necessary repairs. The tire is made in any size up to four inches and it is designed to fit standard clincher rims.

Judge W. W. Morrow of the United States Circuit Court has granted a temporary injunction in favor of Harold W. Macloon and J. H. Stover against W. H. H. Hart, Richard Graf, Albert Betz, the Universal Automobile Company and others of San Francisco. The complainants assert that the automobile company is insolvent and ask for the appointment of a receiver and an accounting.

B. M. Shanley, Jr., president of the New Jersey Automobile and Motor Club of Newark, N. J., will enter his 40-horsepower Decauville car in the Ormond-Daytona races this winter. The car was to have entered the Brighton races last October, but a broken shaft made its withdrawal necessary. A new shaft has been sent from France and the machine will be in commission by February.

W. J. Riddell of Des Moines, Ia., is doubling the floor space of his automobile store at 8th and Locust streets by the erection of a three-story addition 22 by 100 feet. When completed, this will give him 13,200 square feet of floor and a garage as modern and complete as those of the east. Mr. Riddell has the State agency for several popular cars and expects a largely increased business in 1904.

An ordinance aimed at reckless automobile operators has been framed in Cleveland as the result of a recent serious automobile accident in that city, and it will be presented to the council within a few days. The proposed law is in the form of an amendment to the present "reckless driving ordinance," which was passed years ago when horseless carriages and flying machines were in the same class.

The Hyatt Roller Bearing Company informs THE AUTOMOBILE that the Haynes-Apperson Company of Kokomo, Ind., have conducted a prolonged test to ascertain the relative merits of the Hyatt hollow and elastic rollers and, on the other side, the solid rollers used in other bearings, and that the test has resulted in the Kokomo Company's return to the Hyatt bearings for rear axles, which were regularly fitted to Haynes-Apperson cars before the test commenced.

L. J. Mueller, who heretofore has conducted an automobile material business in Cleveland, has practically withdrawn from this line and is now acting as general sales agent, covering a territory west of Buffalo for several well-known manufacturers of automobile material, among them the Champion Manufacturing Company, Newark, gears; the Hussey Drop Forging & Manufacturing Company, Cleveland, general line of forgings and other material; the Auto Supply Company, New York, differential gears; Otto Konigslow, Cleveland, stamped metal parts, the New York Coach & Lamp Company, New York, gas and oil lamps, and the E. H. Clay Company, Chagrin Falls, O., gasoline engines.

C. S. Henshaw, New England agent for the E. R. Thomas Motor Co., started this week on a business tour of the New England States. He will call upon the trade in all the towns of importance.

A representative of the tire manufacturers' association now visits the factory of the Standard Welding Company of Cleveland every other day for the purpose of inspecting and stamping all automobile rims that come through the shop. In order to bear the mark of the association, a rim must not vary more than 1-32 of an inch in diameter and not more than 1-100 of an inch in the space between the flanges.

The business of the California Motor Cycle Company, of San Francisco, has been taken over by the Consolidated Manufacturing Company of Toledo, which was formed when the Kirk Manufacturing Company and the Snell Cycle Fittings Company were combined. The Consolidated Company has begun manufacturing the California motor bicycle, of which 500 are to be made for the season of 1904.

The Anheuser-Busch Brewing Company of St. Louis has just ordered a number of electric stages from the Electric Vehicle Company to be used during the Exposition next year in conveying its guests to and from the fair grounds. The vehicles will be built after the French style of double-decked omnibus with seats for forty passengers. The first of these is to be ready for delivery about the middle of February.

W. K. Vanderbilt, Jr., who won the Eagle Rock hill-climbing contest Thanksgiving Day, is about to enter the office of his father in the Grand Central station of the New York Central Railroad, with the intention of thoroughly familiarizing himself with railroad work, so that he may relieve his father and later on take the lead in management of the road. His cousins, Alfred G. and Cornelius, have both had desks in the office of the company.

D. A. and J. S. Harrington have bought the business and property of the Automobile Station No. 1, in Worcester, Mass., and have taken the agency for the Knox Waterless cars. New quarters have been opened at 31 Central Street and the machinery and stock from the Auto Station No. 1, moved into them. The place is to be completely fitted up during the winter for the opening of the coming season. B. F. Blaney will be manager of the garage.

An accident that was ludicrous but which might have proved serious is reported by cable from Paris to have happened to J. L. Poole, who is at present traveling in Spain in the interests of the Olds Motor Works, and C. H. Younger. The two were driving along a road just outside of Madrid in an automobile when they were suddenly confronted by a file of mules that blocked the road. Mr. Poole applied the brakes so suddenly that he and Mr. Younger were thrown headforemost among the mules, but both they and the automobile escaped uninjured.

Gray & Davis of Amesbury, Mass., have shipped a carload of automobile lamps to the Winton Motor Carriage Company. This is believed to have been the first occasion when automobile lamps have been shipped in this quantity and has been commemorated in an engraving showing a railroad freight car with a sign bearing the two firm names.

The Buffalo Specialty Mfg. Co. has lately obtained judgments upholding their exclusive rights, under Duryea Patent No. 578,551, to make or sell liquids or compounds intended for injection in pneumatic tires to prevent or heal leaks. One judgment was obtained against the Linole Mfg. Co. and Henry N. Yapp & Co. of Detroit and another against Maurice B. Hardesty of Denver. In addition to the Duryea patent, the Buffalo company also controls the Curlin patent, which relates to a similar method.

The Acme Motor Car and Repair Company of 20 Slater Avenue, Cleveland, which is handling the Sandusky in Cleveland, is manufacturing a simple muffler for the trade. It is seven inches in diameter and from twelve to twenty-five inches long, according to requirements, being designed to take care of from four to fifteen horsepower. The exhaust enters through a port in the center and passes out through three tubes running lengthwise through the chamber. The muffler is covered with asbestos.

The Fischer Automobile Company, Hoboken, N. J., is building two 20-passenger electro-gasoline buses for a concern in Carlsbad, Germany. These vehicles are of thirty horsepower each. The Fischer company is finishing up a powerful 8-passenger car of tonneau type, which will be exhibited at the Madison Square Garden automobile show, in January, and several heavy trucks and passenger buses, which will also be exhibited. The original intention was to have a much larger display than is now possible owing to the crowding of exhibition space this year.

James L. Breese, artist, and a prominent member of the Automobile Club of America has been in the South for several weeks, enjoying come excellent duck shooting. Before leaving New York Mr. Breese shipped his automobile to Norfolk, Va., and from that point South he toured along the Atlantic coast as far as Currituck, where his shooting club is located. From Cape Henry to the Currituck Club, a distance of forty miles, a broad stretch of hard beach offered an opportunity for testing the speed qualities of his car, and Mr. Breese covered the distance well within an hour.

Prince Wells, the veteran Louisville dealer, is now erecting a three-story annex to his automobile establishment. It is 100 feet in depth. The main floor and basement will be used for storage; second and third floors for repair shop, and a powerful electric elevator capable of lifting 5,000 pounds will raise cars to the upper floors. Mr. Wells will handle the Rambler and Toledo exclusively in 1904. During the season of 1903 he sold thirty-five Ramblers and four Toledo cars, including one of the large four-cylinder machines, which he has just delivered to Dr. A. C. Montenegro, a prominent Louisville physician.

The Cleveland automobile show will be held the week of February 29–March 5 under direction of the Cleveland Automobile Club. The committee in charge of the show will be George Collister, Wm. F. Sayle and H. P. Shupp, the same gentlemen who conducted the show last year as a private enterprise. After the experience of last year and judging from the inquiries already received, it has been decided that more space will be necessary, and it has been arranged to take the seats out of the gallery at Gray's Armory and use this space for the exhibits of the material people, leaving the entire ground floor for the exhibits of automobile manufacturers.

The Reed-Underhill Company, agents for the Knox cars in Boston, Mass., are making extensive alterations in their quarters on Stanhope Street. The whole lower floor will be used for exhibition and demonstration purposes, only a small space being reserved for an office. This will give room for a large number of cars, although it is not the intention of the firm to go into the garage business. The second floor of the building is to be used as a repair shop and stock room and will be reached by a large elevator. It is expected that the alterations will be completed by the first of the year. Already the firm has received two or three of the 1904 models of the Knox cars.

An official test of the accuracy of the Jones Speedometer was made recently on Riverside Drive, New York, by the bicycle squad, with a view to adopting the instrument and equipping the entire New York bicycle squad with them. The bicycle squad of the Washington police force, thirty-six strong, uses them and their testimony regarding the speed of persons arrested for exceeding the legal limit is accepted without question. The method of testing the instrument in New York was for a policeman mounted on a bicycle fitted with one to ride over a measured mile at the side of an automobile in which a passenger carried a stopwatch and compare the two instruments.

On Tuesday evening, December 15, J. Dunbar Wright will lecture—with lantern slides—at the Automobile Club of America on "The Yellowstone Park and Canadian Rockies."